REPORT OF THE

SAN FRANCISCO PUBLIC UTILITIES COMMISSION

FISCAL YEAR
1938-1939

MUNICIPAL RAILWAY
WATER DEPARTMENT
HETCH HETCHY WATER SUPPLY
HETCH HETCHY POWER SYSTEM
ELECTRIC POWER BUREAU
AIRPORT
LIGHTING OF STREETS
GAS AND ELECTRIC SUPPLY

EXPOSITION EXHIBIT

Activities and organization of the San Francisco Public Utilities Commission and its utilities departments were vividly portrayed in an extensive exhibit housed in the San Francisco Building at the Golden Gate International Exposition. Panel shown illustrates organization of the Commission and its departments under the charter.

REPORT OF

SAN FRANCISCO PUBLIC UTILITIES COMMISSION

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FISCAL YEAR 1938-1939

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COMMISSIONERS

LEWIS F. BYINGTON
President

GEORGE FILMER
Vice-President

JOHN P. MURPHY

JOHN H. McCALLUM

JOHN P. McLAUGHLIN

•

EDWARD G. CAHILL
Manager of Utilities

•

JOHN J. SHARON
Secretary of the Commission

•

FORREST B. GIBBON
Secretary to the Manager

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CITY AND COUNTY OF SAN FRANCISCO
PUBLIC UTILITIES COMMISSION

December 29, 1939.

Honorable Angelo J. Rossi,
Mayor of the City and County of San Francisco.

My dear Mayor:

The Public Utilities Commission of the City and County of San Francisco herewith submits to you its annual report for the fiscal year beginning July 1, 1938, and ending with the 30th of June, 1939.

The Public Utilities Commission was created under the terms of the Charter of the City and County of San Francisco, which Charter went into effect at 12 o'clock noon, on the 8th day of January, 1932. The members of the Commission are appointed by the Mayor for terms of four years and the duties of the Commission are set forth in Section 121 of the Charter which reads as follows:

> "The Public Utilities Commission shall have charge of the construction, management, supervision, maintenance, extension, operation and control of all public utilities and other properties used, owned, acquired, leased or constructed by the city and county, including airports, for the purpose of supplying any public utility service to the city and county and its inhabitants, to territory outside the limits of the city and county, and to the inhabitants thereof.
>
> "The commission shall also have power to enter into contract for the furnishing of heat, light and power for municipal purposes, and to supervise the performance and check the monthly bills under such contract."

The various utilities controlled and operated by the Commission have all experienced a very progressive development during the last year. Most of them have shown increased revenues. Extension and improvements carried forward promise to bring material advantages to San Francisco, through increased revenues from the utilities and the industrial growth of the city.

Water consumption for the last fiscal year averaged 63,300,000 gallons daily, an increase of five million gallons a day over the prior year, which was the largest increase in any year since the city acquired the properties of the Spring Valley Water Company. Total sales for the year, for the first time, exceeded $7,000,000. During the last year the new pipeline serving Palo Alto, Atherton, Menlo Park, Stanford University, and Sunnyvale, was completed. In San Francisco there was an installation of 2,995 water connections for service to new customers. The construction of new reservoirs and enlargement of others within the city limits has given a storage capacity of six days, available in the event of breaks in transmission lines, as compared with a capacity of only one and a half days when the utilities commission first assumed jurisdiction in January, 1932. The total number of water consumers has increased in the last five years from 108,000 to 117,000. The net income of the Water Department, after deducting bond interest and other expenses, was $2,341,000.

During the last fiscal year there has been a remarkable increase shown in the financial operation of the Municipal Railway. The revenue received from passen-

ger transportation amounted to $4,107,365, being $553,773, or nearly 16% over that of the highest preceding year, and $662,621 over that of the fiscal year 1937-38. The net profit was $392,275, an increase of 22% over the preceding year. The Municipal Railway carried during the year 107,739,849 passengers, an increase of 17,449,330 over the preceding year. During all this period the municipal railway maintained a five-cent fare, while most other street car lines in the country charge a fare of from seven to ten cents a passenger.

During the year, there has also been a marked increase and betterment in the street railway service offered the citizens of San Francisco. Five new bus routes have been established and equipment purchased at a cost of $126,000, to operate the same. The five new bus routes which have been established include extensions into the Sunset, Bayshore, and Portola Heights Districts, to Telegraph Hill and through Miraloma Park District.

Plans have been prepared for a new trackless trolley line from the new San Francisco-Oakland bay bridge terminal, along Howard Street and South Van Ness Avenue to Army Street. The cost of construction, which includes wiring for the new trolleys and also the purchase of nine, or more, trolley coaches will approximate $228,000. The route will eventually be extended southward into the Mission district and northward across Market Street to Union Street and to the Presidio district.

The completion of the San Francisco-Oakland Bay bridge terminal located at Mission and First Streets, rendered necessary a rearrangement of the routes of railway lines on lower Market Street. The new terminal provides for the handling each day of approximately 65,000 people, by trains across the bridge, who formerly took ferry boats from the foot of Market Street. It was necessary to divert passenger traffic from Market Street along Second to Mission, thence past the new terminal to Fremont Street and on Fremont back to Market. New tracks were built to accommodate this flow of passenger traffic.

Prior to the operation of the Municipal Railway by the Public Utilities Commission, there was for some time a deficit shown, amounting at times to over $250,000 a year, which was a heavy tax burden on the people. The Municipal Railway is now valued at $10,000,000, and the total bonded debt resting upon it has been reduced from $5,200,000 to $1,400,000.

A pronounced step forward in our local transportation was taken during the last year when the Utility Commission appropriated $112,000, out of earnings, for the preparation of designs and the purchase of five modernly equipped and operated street cars which will serve as models for those to be hereafter built. The inauguration of the new service will mark a great advance in the transportation furnished by our municipal lines. The new cars have a seating capacity of 60 passengers and a peak load capacity of 135. They are richly upholstered and well ventilated, have abundant motor power, speed, comfort and safety. They stop and start without jolting passengers and are silent in their operation.

Since the Municipal Railway began operating, twenty-seven years ago December 28, 1912, it has grown from a system of two lines, with some 10 cars, 12 miles of track, and 28 employees, to a system of ten lines and nine bus routes, with 240

cars, 31 motor buses and 1,300 employees. The value of the properties in 1912 was approximately $720,000. It is now $10,000,000.

The San Francisco airport has been enlarged during the past year to provide for an ever increasing air traffic. Three hundred acres will be added to the landing area, the land plane port is to be increased in size and a seaplane base constructed. The Federal Government has appropriated $513,000 for the establishment of a United States Coast Guard air base and contracts have been let for construction of the necessary buildings at the airport, which include an administration building, barracks to accommodate 60 persons, shop, wharfs and hangars.

Treasure Island will, in time, become San Francisco's second municipal airport. The Pan American Airways, Inc., has started operation of its Trans-Pacific airline service from the island to Honolulu, Midway and Guam islands and on to Manila. The Public Utilities Commission will eventually develop the 412 acres of Treasure Island, where the Golden Gate International Exposition has been held, as both a landplane and seaplane port, which will greatly add to the transportation facilities of our splendid harbor.

The work of increasing the height of the O'Shaughnessy Dam by adding 85½ feet thereto was completed in the fall of 1938. On October 16, 1938, ceremonies in connection with the dedication of the dam were held on the summit thereof and participated in by state and city officials and many people from San Francisco and the surrounding country. The dam is the largest in California with a total height above bedrock of 430 feet and a crest length of 900 feet, and when filled creates a lake eight miles in length, and one and one-half miles in width and capable of impounding one hundred and seventeen billion gallons of water, sufficient to meet the requirements of a city of four millions of inhabitants.

The city of San Francisco, during the year 1939, won two notable victories in litigation growing out of the development of water and power resources through the impounding of water in the Sierra Nevada Mountains to conserve the needs of mankind.

Suit has been brought by the owners of the El Solyo ranch in the San Joaquin Valley claiming riparian rights to water of the Tuolumne River, prior and superior to those of San Francisco. The judge sitting in the Superior Court of Stanislaus County rendered a decision that the said ranch was entitled to receive 67 cubic feet per second of water flowing in the San Joaquin River, and further enjoined San Francisco from storing in the O'Shaughnessy dam water to a height beyond that of the original dam, which was 85½ feet below the present height. On appeal, the Supreme Court of California held that while the ranch was entitled to the stated flow, at a certain period of the year, that when the river was supplying an amount beyond that flow, which was the case when the injunction was issued, the City of San Francisco had the right to the surplus water and could fill the reservoir therefrom. The injunction was dissolved.

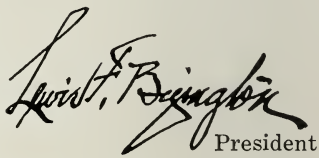
Under the terms of the Raker Act, the city is restrained from selling the rights it acquired from the Federal Government, which rights were to construct reservoirs or build aqueducts on and over the lands within the Yosemite Reservation. The city, having no distributing system in San Francisco, for the distribution of

its electric power, generated in connection with the building of its Hetch Hetchy water system, entered into an agency agreement with the Pacific Gas and Electric Co., to have the said power distributed in San Francisco by said company, the city receiving a portion of the amounts realized from the disposal of the power. The city has of late years been receiving from the company, as proceeds growing out of the agency, an amount in excess of $2,000,000 yearly. The U. S. District Court in California, in an action to void the agreement, held that the agreement was in effect a sale and in violation of the terms of the Raker Act. On appeal by the city to the U. S. Circuit Court of Appeals, the decision of the District Court was reversed, the appellate court holding that the agreement was an agency agreement and not in violation of the Act of Congress. This decision secures to the city a revenue in excess of two million dollars a year.

The City Attorney, and the counsel appearing with him, in upholding the rights of San Francisco, deserve commendation for their able presentation of the issues involved.

The members of the Commission desire to commend the manager of utilities and the heads of the departments for their able and efficient services in the discharge of duty, and all other employees who have conscientiously assisted in bringing about the successful administration of the Public Utilities department of this municipality.

Very respectfully yours,



President

of the Public Utilities Commission.

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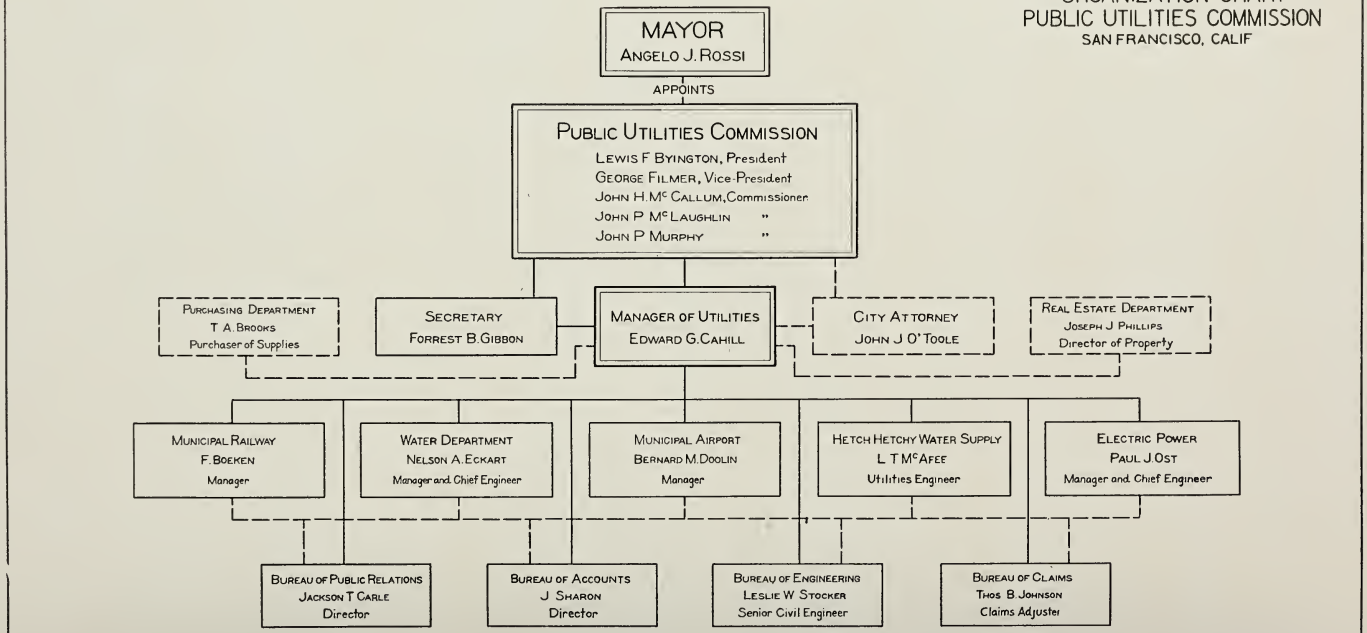
ORGANIZATION CHART
PUBLIC UTILITIES COMMISSION
SAN FRANCISCO, CALIF



REPORT OF THE
SAN FRANCISCO PUBLIC UTILITIES COMMISSION

General:

San Francisco's municipal utilities increased their service to citizens of the city during the fiscal year ended June 30, 1939.

On the one hand gains in water sales and Municipal Railway revenue reflected increased usage of the city's public service enterprises.

On the other hand street car and bus line extensions for the Municipal Railway, reservoirs and distribution mains of the Water Department, Hetch Hetchy construction, substantial progress on enlarged airport facilities and a material improvement in the street lighting system highlighted a definite program of public service expansion to match the city's progress.

The year's operations were marked by the greatly expanded demand on municipal utilities' service occasioned by an influx of visitors, residents and industries due to the 1939 Golden Gate International Exposition, but in addition to this abnormally large business, other factors definitely indicated a most healthy growth of San Francisco reflected in public service requirements.

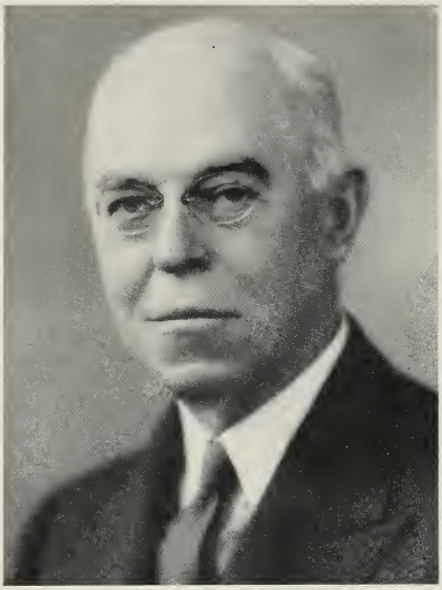
Water Department:

Water Department revenue for the fiscal year totaled $7,019,064, a gain of 2.4 per cent, or an increase of $164,504 over the preceding year. Of the total increase $60,853 was gained by sale of water for suburban consumption, while consumption in San Francisco gained $103,651. Increase in suburban sales resulted largely from the reduced rates for large consumers which became effective January 1, 1938, and completion of the new Palo Alto pipeline placed in service August 3, 1938.

Water consumption for the year averaged 63.3 million gallons daily, an increase of 5 million gallons daily over the prior year. This is the largest gain in consumption for any fiscal year in the history of the Water Department or its predecessor, the Spring Valley Water Company.

Total water sales for the year exceeded the $7,000,000 mark for the first time.

Major construction work during the year in addition to the new Palo Alto pipeline serving Atherton, Palo Alto, Menlo Park, Stanford



LEWIS F. BYINGTON
President

University and Sunnyvale, included the installation of approximately 10¾ miles of distribution pipe, mostly of 6 inch or 8 inch size in San Francisco, together with installations of 2,995 connections for water service to new consumers. Work was also started on replacement of the lower end of the spillway of Calaveras reservoir in Alameda County. This spillway was damaged during overflow of the reservoir in the winter of 1937 when the reservoir was filled for the first time since its construction. It is expected that the reconstruction of the spillway will be completed prior to the rainy season in the winter of 1939 and the spring of 1940.

On July 22, 1938, water was first turned into the new Sunset reservoir, which has a capacity of 90 million gallons. This reservoir, the largest completely covered water storage facility in the world, will supplement the Laguna Honda reservoir in serving a large portion of the northwest section of the city. Addition of the Sunset, University Mound and Merced Manor reservoirs to the city's distribution storage system brings to approximately 6 days the total supply of water available to San Francisco consumers in the event of any break in transmission mains. Prior to construction of these reservoirs only 1½ days' supply of water was stored within the city.

During the past 5 years the total number of consumers of the water system has increased from approximately 108,000 to 117,000.

Water usage for the fiscal year amounted to 63.3 million gallons daily, as compared with 50.5 million gallons daily 5 years ago.

Operating expense, including an allowance for uncollectible water bills in excess of that actually experienced, amounted to $3,017,926, leaving the Water Department a profit from operations of $4,005,613. After adding income from sources other than sale of water and deducting bond interest and

GEORGE FILMER, SR.
Vice-President

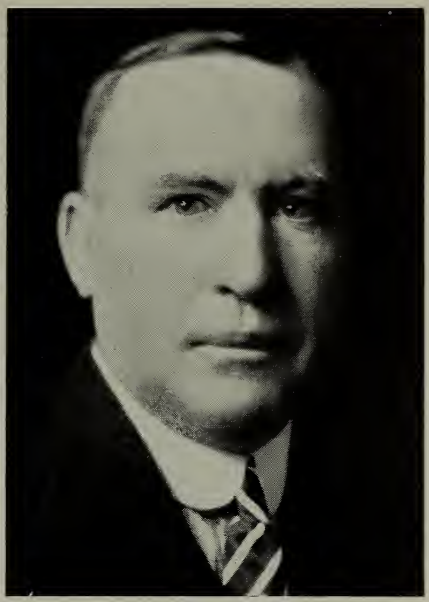
other expenses, the net income was $2,341,109. Of this, $990,826 was contributed to the city's general fund thereby relieving taxpayers of an equal burden for payment of bond interest and redemption, and the balance was used for regular annual redemption of bonds issued for Water Department purposes, and for additions and betterments of the system.

Municipal Railway:

The Municipal Railway enjoyed an unusual increase in business during the fiscal year 1938-1939, and from profits arranged a major expansion program.

Sufficient automotive bus equipment was purchased for operation of 5 new bus routes, at a cost of $126,000, while 6 old buses, fully depreciated, were replaced by 5 modern transit type coaches at a cost of $61,390.

Funds for construction and operation totaling $228,000 were provided for a new trolley coach line along Howard Street and South Van Ness Avenue from the San Francisco-Oakland bay bridge terminal to Army Street. In addition to construction of the necessary overhead wiring this appropriation will purchase a minimum of 9 trolley coaches. This route is expected eventually to be extended to the south into the outer Mission district and to the north across Market Street and over approximately the route of the present "E" street car line. Operation of the initial section in an area adjacent to the Potrero car house will enable the proper servicing and storage of trolley coaches at that point.



JOHN P. McLAUGHLIN
Commissioner

JOHN H. McCALLUM
Commissioner

A definite step toward modernization of San Francisco's street car equipment was taken by the Public Utilities Commission with the appropriation of $112,000 for the preparation of designs and the purchase of 5 new street cars. To meet San Francisco's operating condition these cars will be specially designed for the city.

J. P. MURPHY
Commissioner

The new street cars differ from other recently built equipment in being designed for 2-man operation with control equipment located at both ends of the car. The re-designing has necessitated different door and seating arrangements, as well as improved motor and braking equipment. Fast, safe, comfortable and silent, the new cars are expected to be put in service late in 1939. If this improvement in public transportation is approved by the citizens of San Francisco, the Public Utilities Commission has indicated it will seek means of financing the replacement of the entire Municipal Railway street car equipment with modern cars.

The 5 new bus routes for which equipment has been ordered include extensions into the Miraloma Park, Sunset Heights, Bayshore and Portola Heights, and Telegraph Hill districts. In addition, the "M" street car line now operating from St. Francis Circle into the Ocean View district is to be replaced by a bus route operating on more frequent headways and better serving the needs of the district.

These extensions of Municipal Railway service were directly due to a phenomenal increase in business enjoyed by the Railway during the year. Passenger revenue amounted to $4,107,365, exceeding by $553,773, or 15.58 per cent, the amount of the highest preceding year, and by $662,621 the passenger revenue for the fiscal year 1937-1938. Net profit was $392,275, an increase of 22.01 per cent over the prior yearly net profit. The Railway carried 107,739,849 passengers, an increase of 17,449,330 or 19.33 per cent over the prior year, which had been the highest in the Railway's history.

This large increase in business is attributable largely to two causes. The first is the difference in fares between the Municipal Railway, which was 5 cents during the entire year, and that of the major privately-owned system, which was 7 cents or 4 rides for 25 cents from July 1, 1938, to December 31, 1938,

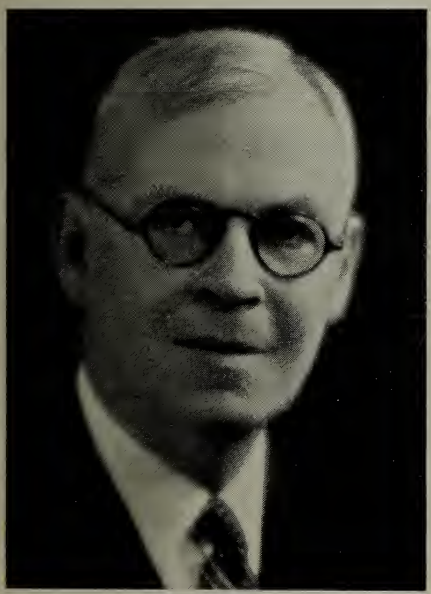
EDWARD G. CAHILL
Manager of Utilities

and 7 cents for both cash fares and tokens during the remaining 6 months of the fiscal year.

The second factor explaining increased business was the Golden Gate International Exposition which opened on Treasure Island on February 18, 1939. It was estimated that fares paid by passengers on the Municipal Railway traveling to and from the exposition accounted for an average daily increase of passenger receipts amounting to $800.

A major rearrangement of Municipal Railway lines was required by the completion of the San Francisco-Oakland bay bridge terminal which moved the San Francisco flow of commuter and other traffic originating or destined for the east bay cities from the ferry building to a point on Mission Street between First and Fremont Streets. This new terminal, handling approximately 60,000 persons daily, necessitated the construction of new tracks in a loop from Market Street via First, the bridge terminal and Fremont Street.

FORREST B. GIBBON
Secretary to Manager



JOHN J. SHARON
Secretary of the Commission

As the Market Street Railway Company was unable to finance the construction of tracks for its service to the new terminal, the entire cost was borne by the Municipal Railway. The $154,046 required for construction of these tracks to be used jointly by the Municipal and Market Street Railways was provided from Municipal Railway funds with the agreement that the private company will pay as annual rental for the use of these rails 10 per cent of one-half of the cost of the tracks and incidentals thereto, and also a proportionate amount of the maintenance costs.

The Public Utilities Commission formulated an operating policy under which one-half of the cars on the "B," "C," "D," "J," "K," "L" and "N" lines are operated to the new bay bridge terminal and the other one-half to the ferry building. The proportion of cars operating to the ferry building was temporarily increased to accommodate

exposition visitors who desired to board or leave ferry boats at the waterfront, but it is expected that the proportion of one-half of the cars to each terminal will be resumed at the conclusion of the exposition. Operation of cars to the bay bridge terminal commenced on January 15, 1939.

Increased street car and bus service necessitated by the larger number of passengers carried caused an increase of 9.75 per cent in operating expenses. This increase in expense was materially less than the amount of increased receipts. Cars and buses operated a total of 9,810,068 miles, an increase of 6.48 per cent over the previous year. Total car and bus hours amounted to 1,003,126, an increase of 9.07 per cent over the prior fiscal year. Tracks, roadway and equipment were maintained in excellent condition.

After 26½ years of operation the Municipal Railway is estimated to be worth $10,000,000, while the outstanding bonded debt which is being regularly retired from earnings was $1,401,200 at the close of the fiscal year.

Transportation Development:

On September 27, 1938, a proposal for the issuance of bonds in the amount of $24,480,000 was submitted to the voters. This proposed issue would have provided a maximum of $12,500,000 for purchase of the Market Street Railway Company's system, with the balance of the funds to be allocated for rehabilitation of the property. The proposal was defeated. At the same time voters refused approval of the creation of a traffic commission to study vehicular and mass transportation problems.

At the close of the fiscal year negotiations were under way for employment of Mr. C. H. Purcell, Chief Engineer of the California Highway Commission, and engineer in charge of construction of the San Francisco-Oakland bridge, under a 5-year contract to study and make recommendations for handling of all kinds of traffic.

Hetch Hetchy Construction:

On October 16, 1938, federal, state and city officials participated in ceremonies dedicating the enlarged O'Shaughnessy dam. President Lewis F. Byington of the Public Utilities Commission acted as chairman of the day. Addresses were delivered by Honorable Angelo J. Rossi, Mayor of San Francisco; Honorable Kenneth A. Godwin, Regional Director Federal Administration of Public Works; and by President Byington prior to the unveiling of a commemorative bronze plaque set into the crest of the dam.

Enlargement of this key structure of the city's Hetch Hetchy water and power system not only will provide an uninterrupted supply of water for San Francisco, but will also bring immediate revenue by insuring operation of Moccasin Creek power plant at full capacity throughout each year. It is estimated that through the increased water storage the city will receive an average annual income of $225,000 in excess of that heretofore realized from sale of power.

Hetch Hetchy Water Rights:

On June 3, 1939, the Supreme Court of the State of California rendered an important decision establishing San Francisco's water rights on the Tuolumne

river. Suit had been brought by Meridian, Ltd., operator of the El Solyo ranch situated in Stanislaus county adjacent to the San Joaquin river closely below its confluence with the Tuolumne river. The company sought to establish its riparian rights to water from the Tuolumne river as prior to those of San Francisco, maintaining that the city must guarantee that sufficient water of good quality flow past the ranching properties of the company to provide them with adequate irrigation before the city could store or divert any water from the Tuolumne river.

The Superior Court of Stanislaus County rendered a decision holding that Meridian, Ltd.'s right to water from the Tuolumne river for irrigation of its property was prior to that of the City and County of San Francisco. This decision made the city responsible for an adequate irrigation supply for the El Solyo ranch and restrained the city from storing any more water in the Hetch Hetchy and Lake Eleanor reservoirs than had been conserved in prior years.

The decision was appealed to the supreme court by the city with the result that the state's highest judiciary ruled that San Francisco may store water in its Hetch Hetchy reservoirs to their full capacity provided Meridian, Ltd. receives 67 cubic feet per second of water through the channel of the San Joaquin river. The California supreme court also dissolved an injunction which had been obtained from the Superior Court of Stanislaus County by Meridian, Ltd., which prevented the city from filling Hetch Hetchy reservoir beyond the height of O'Shaughnessy dam prior to its enlargement. Although runoff from the Hetch Hetchy watershed was unusually low in the spring of 1939 it was anticipated that the additional conservation of water permitted by the supreme court's decision will amply supply the irrigation needs of farming areas on the Tuolumne and San Joaquin rivers in addition to providing a domestic supply and electric power generation for the city.

Airport Development:

On January 31, 1939, Pan American Airways, Inc., started operation of its trans-Pacific service to Manila via Honolulu, Midway, Wake and Guam islands from Treasure Island in San Francisco bay. Treasure Island, occupied by the Golden Gate International Exposition, will become San Francisco's second municipal airport.

Under an agreement with the city, the company leased hangar, administration building and other necessary seaplane facilities for a period of 10 years with an option for continuance for an additional like period. As soon as the necessary funds are available the Public Utilities Commission expects to develop the 412 acres of Treasure Island as a landplane port in addition to the facilities it provides for seaplane operation. Two large hangars and the administration building, which were in use for exposition purposes, are of permanent construction and will be retained as a part of the air field development.

Meanwhile San Francisco Airport in San Mateo county was in process of enlargement to accommodate the greatly increased air traffic expected in the near future. Substantial progress was made in the project under which $2,850,000 is being expended for enlargement of the landplane port and construction of a seaplane base. Three hundred acres will be added to the landing area permitting lengthening of runways to a maximum of 6,100 feet.

Establishment of a United States Coast Guard air base at San Francisco Airport was assured when in June, 1939, the United States Treasury Department awarded a contract providing $513,000 for construction of necessary buildings. The Coast Guard base will include an administration building, barracks accommodating a personnel of 60, hangars, shops, wharf, ramp and other facilities necessary for seaplane operation.

Hetch Hetchy Power Disposal:

On May 19, 1939, voters of San Francisco defeated a proposal under which revenue bonds up to $55,000,000 could be issued for purchase of the San Francisco distribution system of the Pacific Gas and Electric Company and construction of an electric power plant at Red Mountain Bar on the Hetch Hetchy aqueduct. This plan was similar to that which was defeated in March of 1937 except that it included purchase of that portion of the Pacific Gas and Electric Company's system originally operated by the Sierra and San Francisco Power Company.

In the meantime the city's appeal from a decision of Federal Judge Michael Roche on June 28, 1938, was still pending before the United States Circuit Court of Appeals. The district court decision held that the method of disposal of Hetch Hetchy electrical energy through an agency agreement with the Pacific Gas and Electric Company is in violation of the terms of the Raker Act under which the city obtained from the federal government the right to construct the Hetch Hetchy water and power systems in Yosemite National Park.

Commission Personnel:

The term of Commissioner John P. Murphy expired on January 15, 1939. Commissioner Murphy was reappointed immediately by Mayor Angelo J. Rossi for a new four-year term.

At its first meeting in 1939 the Commission unanimously re-elected President Lewis F. Byington and Vice-President George Filmer to serve their eighth consecutive one-year terms in these positions. Both commissioners have served respectively as president and vice-president of the Commission since its organization on January 8, 1932.

General Office:

The Public Utilities Commission held 35 regular and adjourned meetings during the fiscal year. The Commission adopted 561 resolutions and awarded 42 contracts for work costing $1,036,399. Contract payments during the year amounted to $1,262,641, a total of 42 contracts were approved as completed during the year and 52 parcels of city property under the Commission's jurisdiction were leased to the highest bidders.

Utilities Investment:

As of June 30, 1939, after deducting reserves for depreciation, a consolidated balance sheet shows a total investment of $167,370,955 in the city's municipal utility enterprises. This investment compares with a total of $170,296,558 shown

on the consolidated balance sheet as of June 30, 1938. The latter total was reduced from the amount of $174,237,760 reported for the prior year, as the result of adjustment of the balance sheets in accordance with surveys conducted by the Commission to determine depreciation of the properties.

All bond interest and redemption charges of the Utilities were fully and promptly paid.

Audits:

Books and accounts of the various utilities under the jurisdiction of the Public Utilities Commission are audited annually by certified public accountants under the direction of the Controller of the city and county. In addition to these annual audits, the accounting bureau of the Commission and the Controller maintain a constant surveillance over the budgetary and bond expenditures of the utilities.

In succeeding sections of this volume will be found detailed reports of the activities and operations of each of the departments and bureaus under the jurisdiction of the Public Utilities Commission.

TOWER OF THE SUN

Water furnished by San Francisco to the Golden Gate International Exposition added to its charm and beauty as shown by this view of the Tower of the Sun and Court of Reflections.

SAN FRANCISCO WATER DEPARTMENT

N. A. ECKART

General Manager and Chief Engineer

N. A. ECKART
General Manager and Chief Engineer
San Francisco Water Department

For the first time in the Water Department's experience the net water sales for the fiscal year exceeded the $7,000,000 mark. An increase of $164,504 over the preceding year brought the figure for the past year to $7,019,064, a gain of 2.4 per cent. Increase in suburban sales amounting to $63,531 resulted largely from the reduced rates for large consumers which became effective January 1, 1938, and the completion of the new Palo Alto pipe line which was placed in service August 3, 1938.

Water consumption for the year averaged 63.3 m.g.d., an increase of 5 m.g.d., making the greatest gain in consumption for any single year in the history of the Department or under Spring Valley operation. The past season was one of deficient rainfall, only about 60 per cent of normal, making it necessary to draw upon Hetch Hetchy sources for an average of 20.6 million gallons daily, of which approximately 7.6 m.g.d. were used for building up reduced Peninsula storage, the balance passing on to meet the consumers' demands.

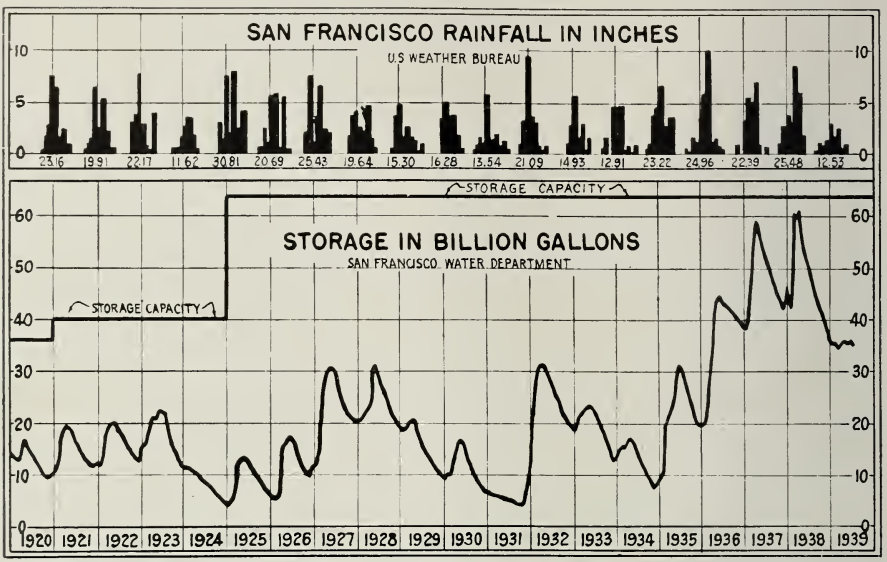
Little new construction work was undertaken during the year following the completion of the several P. W. A. programs. Approximately 10¾ miles of pipe, largely 6- and 8-inch distribution mains, were laid during the year and some 2,995 new services were installed, a gain of 1,079 over the preceding year.

The Walnut Orchard produced the largest crop in its history, the gross sales amounting to $38,943 as against $23,808 in the previous year and the previous all time high figure of $27,865 obtained in 1936.

The splendid cooperation of the entire staff has in no small measure contributed to the excellent showing made by the Department as a whole, and the occasion is taken to express appreciation of the loyalty and devotion to duty of the personnel of the Department.

WATER PRODUCTION DIVISION

San Francisco's water supply is derived from the Water Department system of local San Mateo and Alameda Counties sources and from the Hetch Hetchy reservoir system in the Sierra Nevada Mountains.



The Hetch Hetchy system east of the East Alameda Creek portal of the Hetch Hetchy aqueduct is under the jurisdiction of the Hetch Hetchy Water Supply personnel. From Alameda Creek west, the aqueduct is operated by the Water Department.

The Water Department production system is under the direction of Mr. T. W. Espy, Engineer of Water Production, and is geographically divided for operating purposes into the Peninsula Division with Mr. George J. Davis as superintendent, and the Alameda Division with Mr. J. H. Rankin as superintendent.

The Peninsula Division includes all territory south of San Francisco and west of the bay. The main units of this division are the Upper and Lower Crystal Springs, San Andres and Pilarcitos reservoirs together with the appurtenant pipe lines, aqueducts, pumps and other facilities for delivering water into San Francisco and to Peninsula consumers.

The main units of the Alameda Division, which division includes all of the Water Department system east of the bay, are the Calaveras reservoir, the Pleasanton wells, the infiltration galleries at Sunol and the various pipe lines, aqueducts and appurtenances necessary for delivering water gathered at these points to the Peninsula reservoirs and to a few local consumers.

The draft on water resources to meet consumption requirements for the year 1938-39, was 23,093,000,000 gallons or an average of 63.3 million gallons daily. This is an increase of 5 million gallons daily from the preceding year and is the largest single year's gain in the Department's history under either City or previous private ownership. Suburban consumption was materially increased with the addition of three new large services on the Palo Alto pipe line which was put in service on August 3, 1938. The maximum month of suburban consumption averaged 14.4 m.g.d. as against 8.9 m.g.d. for the maximum month of previous years.

The Hetch Hetchy delivery averaged 20.6 million gallons daily for the year and brought the total Hetch Hetchy delivery since October, 1934, to 44,253 million gallons or an average of 25.9 million gallons daily. Practically one-half of the total delivery has been used to build up storage in the Peninsula reservoirs and the other half, averaging 13 million gallons per day, has been used for consumption.

Rainfall Catchment and Storage:

Rainfall on the local watersheds was approximately 60 per cent of normal, with very little runoff available for storage. However, due to the Hetch Hetchy delivery and ample carry-over from previous years, the local storage is still greater than at any time prior to 1936. Minimum surface storage was 33,993 million gallons on March 7, 1939, and the maximum was reached April 12, 1939, with 36,086 million gallons. These quantities would have been considerably greater had it not been necessary to lower the water level in the Calaveras reservoir to insure protection to construction work in progress on the Calaveras spillway. On June 30, 1939, storage was 35,118 million gallons, a decrease of 15,341 million gallons from June 30, 1938.

In addition to surface storage, the underground supply at the Pleasanton well field remains filled and actually overflowed for several months through artesian wells in the lower end of the valley. The advance release to the Alameda County Water District was increased to 16,532 million gallons. This water is recoverable by the Department should any emergency make such recovery necessary.

Transmission:

Water required to supply the San Francisco consumption averaged 56.9 million gallons daily. Of this amount, 38.9 million gallons were delivered through the three transmission mains having their sources at the San Andres reservoir and supplying the College Hill, Lake Honda, Stanford Heights and Merced Manor reservoirs in San Francisco. The other 18.0 million gallons daily were delivered to the University Mound reservoir through the two transmission mains from the Crystal Springs reservoir. Suburban consumption, averaging 6.4 million gallons daily, was supplied from transmission and supply lines at various points throughout the system.

An average of 35.6 million gallons per day was pumped from the Crystal Springs reservoir through the Crystal Springs aqueduct to the San Andres reservoir.

A total of 63.2 million gallons daily was transported across San Francisco bay, 62.3 million gallons daily through the Bay Crossing pipe lines, and 0.9 million gallons daily in the Alameda pipe line. Three million gallons daily of this were used by consumers served from the Bay Crossing pipe line, and 60.2 million gallons daily were delivered into the Crystal Springs reservoir. An average of 19.6 million gallons daily of this water came directly from Hetch Hetchy, 39.0 million gallons daily through the Calaveras pipe line from Calaveras reservoir; and from Sunol, 3.7 million gallons daily came through the Niles-Irvington pipe and 0.9 million gallons daily through the Alameda pipe.

General Operation:

The San Francisco Distributing System was supplied entirely with water drawn from the Crystal Springs and San Andres reservoirs, no water being drawn from

CALAVERAS SPILLWAY STILLING BASIN
Showing concrete backfill and beginning of sidewalls.

Lake Merced or the Sunset wells. The Crystal Springs reservoir was replenished with water drawn from Hetch Hetchy, Calaveras, Sunol and local runoff. The San Andres reservoir was replenished with water from the Pilarcitos reservoir, local runoff and water pumped from the Crystal Springs reservoir.

While the catchment at the Sunol filter beds was large, due to the unusual releases from Calaveras, all the normal catchment is considered to have been included in the quantity delivered to Alameda pipe line consumers, to the Alameda County Water District or into the Bay Crossing pipe for delivery on the west side of San Francisco bay.

On August 3, 1938, the new 28,000 foot, 36-inch diameter Palo Alto pipe was put into service. This pipe takes its water at the Redwood Gate House from either of the two Bay Division pipe lines and is now delivering water to three new large consumers: The City of Palo Alto, Moffett Field Air Base and California Water Service for Menlo Park. These services together with Redwood City and all other consumers south of Redwood City get water from the Bay Crossing pipes. Practically all other Peninsula consumption is supplied from the transmission pipes carrying water from Crystal Springs and San Andres reservoirs to San Francisco.

Delivery of water from the Hetch Hetchy sources which was discontinued February 11, 1938, was resumed February 2, 1939. Between this date and March 10, 1939, a small flow was maintained. On March 10 the Hetch Hetchy flow was increased to maximum capacity and turned through the Bay Crossing pipe line into Crystal Springs reservoir. Since May 22, water from Hetch Hetchy mixed with

water released from Calaveras has been delivered to all consumers taking their supply from the Bay Crossing pipe line.

Reservoirs:

Calaveras reservoir, with a storage of 10,740 million gallons, was only approximately one-third full at the end of the rainy season. As previously stated, this small storage was due in large measure to the necessity of lowering the water level to protect the damaged spillway, and also to the following subnormal rainfall.

The full reservoir in the spring of 1938 covered considerable lake margin never before under water and all the brush and small trees on this area were killed. It is planned to burn this dead brush in the coming fall along with the remainder of the unusually large deposit of driftwood from the 1937-38 season, only a portion of which could be burned during the past year.

The reservoir was treated in the early fall, using 20,700 pounds of copper sulphate. This was a dosage of 1.25 pounds to each million gallons of water.

The inside of the outlet tower and tunnel were thoroughly cleaned and all outlet gates and supporting metal work were cleaned and painted. The ceiling and inside walls of the chlorinator building were lined with celotex insulating material to retain heat during cold weather and thus improve operation of the chlorine machines. A steel post fence was erected around the ranger's house, which was formerly utilized as a guest cottage, and his old quarters were demolished. About 350 tons of old construction equipment and materials at Calaveras and at the Upper Alameda tunnel portals were sold as junk.

Construction work was started on the replacement of the lower end of the Calaveras spillway. One contract, covering the removal of about 28,000 cubic yards of unstable material from the slide area on the west side of the stilling pool and the relocation of the 36-inch discharge pipe was completed in December. Work on the contract covering the actual reconstruction of the spillway was started in the spring and will be completed before the coming winter. In connection with this work, considerable grouting will be done across the lip of the spillway in an effort to stop seepage at high water elevations from the reservoir into the outlet tunnel in the west abutment of the dam.

The small seasonal rainfall gave little replenishment to storage in the Peninsula reservoirs. The Crystal Springs reservoirs were maintained at a fairly high level throughout the summer, fall and winter, with water brought from Calaveras, and since March 10 they have been receiving in addition to a certain amount of flow from Calaveras the maximum Hetch Hetchy flow which is slightly less than 70 million gallons daily. A total of 21,956 million gallons of Calaveras and Hetch Hetchy water was delivered to Crystal Springs during the year and at June 30, 1939, the storage was the same as at June 30 a year ago.

Upper and Lower Crystal Springs reservoirs were each given three treatments of copper sulphate to curtail algae growths, chiefly of the blue-green types. A large growth of weeds appeared in the reservoirs during the late summer and a crew of men with a boat, tractor and cable pulled weeds for three weeks. The grass lands of the watershed were burned off and the new brush cleared from below the high water line.

Further steps were taken in beautifying the Pulgas Outfall Temple grounds. A sprinkler system was installed to water the planted area. Native oak, redwood,

laurel and madrone trees were planted and wild cherry, lilac, manzanita and red berry bushes were transplanted from the adjoining woods. Deer roam the grounds and cause some difficulty by eating the young growth on the trees and shrubs. Many people visit this spot daily and on Sundays, hundreds stop to inquire about the temple and to view the flow of water over the circular weir in the substructure.

The fence on Belmont Hill was moved back to enclose some one hundred and forty acres of City property formerly leased to the Municipal Properties, Inc., by the Spring Valley Company for a golf course, afterwards abandoned and which of late years had become a haven for sheep and cattle belonging to adjacent property owners.

The boundary line fence between the Torpey and City properties was rebuilt. A new fence was constructed between the Panama Realty Company and City property after exchanges had been made to straighten out the boundary lines.

The San Andres reservoir level was maintained largely by pumping water from the Crystal Springs reservoir. The lake was allowed to lower in the fall to provide room for a winter runoff which did not materialize and pumping was resumed early in the winter. A total of 12,996 million gallons of water was transferred from Crystal Springs to San Andres during the year and the storage of 5,724 million gallons on June 30, 1939, was about the same as for a year ago.

The San Andres reservoir was given two light treatments of copper sulphate, the dose being about one-half pound to each million gallons of water. Brush and weeds were removed from the reservoir area and burned.

Five-sixths of an acre of land, known as the Babcock place adjacent to the San Andres cottage, was purchased. Several large eucalyptus trees on this property which endangered and shaded the San Andres cottage, were cut down and the old Babcock residence which was in an advanced stage of deterioration was demolished.

An automatic gas heating furnace was installed in the watchman's cottage at the north end of the reservoir.

The small winter runoff at Pilarcitos left the reservoir with only 396 million gallons in storage on June 30. This quantity is only about one-half of normal.

The reservoir was given two light treatments of copper sulphate to retard the growth of algae.

A boat house was constructed to house the launch and rowboat at Pilarcitos.

Roads and fireguards were maintained throughout the watershed areas as usual.

Pump Operation:

One pump was operated at the Pleasanton wells for 5½ months of the year. From November 3 to May 18 no pumping was necessary as the artesian flow was sufficient to supply the Sunol consumption. On August 13, 1938, one pump was operated for 15 hours as an emergency supply to the Castlewood Country Club whose pump had broken down.

The Department's "Town Well" at Pleasanton was pumped for 9 months of the year to supply the Town of Pleasanton.

One of the Pulgas pumps on the Bay Crossing pipe line was operated intermittently from July 9, 1938, to May 22, 1939. A total of 1,766 million gallons of water

MODEL OF CALAVERAS SPILLWAY

This model of the spillway and creek channel, on a scale of 1 to 40, was constructed to test varying rates of flow and different stilling basin designs. View shows flow equivalent to 20,000 cubic feet per second.

from the Sunol filters was pumped for consumption on the line or for delivery into Crystal Springs reservoir. This pumping was necessary to conserve water and to supply consumers on the Bay Crossing pipe with clear water during the time the large flow of Calaveras water was too turbid for direct consumption.

The San Andres unit of the Crystal Springs pumps is composed of three pumps having a combined maximum capacity of 49 million gallons daily. One pump was operated for 11 months, a second pump for 9 months, and the third pump for 6 months. An average of 35.6 million gallons daily was pumped from Crystal Springs to San Andres. This was 72 per cent of the station capacity and an increase of 75 per cent over the previous year's pumpage.

The Crystal Springs booster pump was not operated during the year.

The top 88 feet of the standpipe at Belmont pumps were removed in response to request of adjacent home owners. The pump station is shut down and the remaining lower portion of the standpipe will satisfy our requirements for present or probable future use.

Millbrae pumps have not operated since 1933 and probably will never operate again.

Pipe Lines:

All water brought through the transmission pipe lines was treated with chlorine or with both chlorine and ammonia. Water brought through the Calaveras pipe line was also aerated.

A small chlorinator was installed on the Pleasanton pipe line at Sunol to treat water used for the Sunol town supply.

For more than two years previous to the resumption of Hetch Hetchy delivery on March 10 of this year, only Calaveras water had been delivered into the Bay Crossing pipe line at Irvington portal. During much of the time this Calaveras water was too turbid for a good domestic supply. An alum feeding machine was installed at Irvington portal and was entirely successful in satisfactorily reducing the turbidity of the water at the smaller rate of flow during February and March of this year. Some difficulties were experienced in regulating the uniformity of treatment with the dosing machine available, which required a great deal of attention to insure a continuous dose. It, however, demonstrated the feasibility of clarifying the water in the pipe line. The chlorinator building at Irvington portal was lined inside with celotex insulating board, and the road to this station was gravelled. The chlorinator operated intermittently during March and April, dosing the mixture of Hetch Hetchy and Calaveras water at this point.

Dry rot made necessary the replacement of 90 per cent of the caps and sills and 50 per cent of the batter legs in the 16,000 feet of trestle between Newark and Dumbarton Point on the No. 1 Bay Crossing pipe line. Replacement on 12,000 feet of this trestle was completed during the fall of 1938 and replacement on the remaining 4,000 feet was started in June, 1939. These timbers originally were all Oregon pine and are being replaced with redwood. In addition, center posts are being installed under the caps, making three-post bents in place of the two. The trestle walkway planks, which were badly rotted at their contact with the caps, were turned over with a view to continuing their usefulness for an additional two or three years. In connection with hauling timbers for this work it was necessary to rebuild, above the mud sills, three bridges on the Newark Slough road. It was also noted that the marine borers known as "Limnora" are seriously attacking a number of creosoted piles supporting the framed pipe trestle bents across certain of the sloughs.

Four leaks caused by electrolysis developed in the Bay Crossing No. 1 line near Willow Street in Newark. Extensive electrolysis pitting was found in the vicinity of each leak, 80 pits being counted in the bottom quarter of the pipe between adjacent roundabout seams at one leak. The pitting was mainly confined to the bottom quarter of the pipe with the lower half pitted to a smaller extent. Large patches were welded over the extensively eroded places at each leak and other individual pits were filled with weld metal so far as possible. A ground for draining electric current from the pipe was installed at each of the leaks and connections were made to facilitate electrolysis surveys.

A large leak occurred in the 42-inch submarine pipe across Newark Slough on July 24, 1938, due to pulling of one of the lead joints, and delivery through this pipe was discontinued until after repairs were completed on January 7, 1939. This 42-inch submarine line is bell and spigot cast iron pipe laid in 12-foot lengths. Several lengths had moved out of alignment resulting in sharp angles at some of the joints. The angle at one joint was so great that one side of the spigot had pulled entirely out of the bell. A dredger, pile driver and a driver were used in realignment and repairing the break and 50 piles were driven to hold the pipe in its new alignment.

A 16-inch cross connection was installed on the east side of the Newark gate on the No. 1 Bay Crossing pipe to deliver water into the Alameda pipe. This connection was used for several months while repairs were being made on the break at Newark Slough.

As reported last year, the coating on the top and south side of the new 76-inch pipe on the Bay Crossing bridge was badly cracked. This damaged coating, amounting to approximately one-third of the total circumference, was scraped off and the pipe repainted with a coal tar paint. At present a large portion of the balance of the coating is also badly cracked and is being similarly repaired.

The west line fence on the Bay Crossing right of way at the Occidental Dairy was moved farther west to also enclose the adjacent 50-foot Alameda pipe line right of way along the Sweeney-Pescia ranch.

In spite of its age and generally deteriorated condition the Alameda supply line with its submarine pipes under the bay continued to give valuable service in case of emergency need. For the six-month period during which the No. 1 submarine pipe was out of service at Newark Slough, the Alameda pipe was utilized to carry Sunol water to Pulgas pumps for delivery to Redwood City, Palo Alto and other consumers taking water from the Bay Crossing line. This procedure left the No. 2 Bay Crossing line free to deliver a full head of the turbid Calaveras water to maintain the Crystal Springs reservoirs. From March 23 to May 22 the Alameda pipe was again used to supply potable water to the Bay Crossing pipe line consumers.

A larger standpipe was installed at the west end of the Ravenswood trestle to improve pumping conditions and to prevent shock to the old Alameda pipe in case of pumping power failure, which occurred on two occasions during this period.

Eleven leaks were repaired in the Alameda pipe between Belmont and Burlingame. Pressure was again put on the section north from Broadway in Redwood City. Several leaks showed up under the new highway pavement. Being unable to locate these leaks without tearing up large sections of the highway, repair work on this section was abandoned.

The old 44-inch Crystal Springs pipe line is still out of service at Sierra Point on account of the dangerous condition of the suspension bridge across the Sierra Point slide. Plans are being made for the relocation of the line at this location. A 6-inch cross-connection from the new Crystal Springs 60-inch line near Brisbane supplies water for consumers on the old 44-inch line. A 6-inch meter was installed in this cross-connection last fall to better record deliveries into San Francisco.

There were four leaks during the year in the 44-inch San Andres pipe line, all of which were in the State highway opposite the Millbrae pumps.

During the past year it was again demonstrated that not more than eight million gallons per day can be forced through the 30-inch College Hill pipe without opening up leaks. This pipe has been in service since 1870 and is badly pitted and rusted very thin in places.

One leak occurred in the Baden-Merced pipe. This line has been delivering less than one million gallons per day for about two years previous to March, 1939, when the flow was increased to 8.5 million gallons daily to relieve the 54-inch San Andres pipe which was carrying its maximum capacity.

Leaks caused by electrolysis in the 54-inch San Andres pipe have gradually decreased during the past several years. No new leaks appeared during the past year but temporary repairs to several old leaks had to be renewed.

CRYSTAL SPRINGS METER HOUSE
The Venturi meter and instruments housed here record the flow of water in the new 60-inch Crystal Springs pipeline.

Aqueducts:

The Sunol aqueduct continued to require occasional repairs on account of damage caused by falling boulders and land slides.

Other than normal fireguarding there was no maintenance work on either the Niles aqueduct or the Niles reservoir.

Section No. 2 of the Stone Dam aqueduct is still out of use on account of its deteriorated conditions. Repair of the present structure would be so expensive as to make an entirely new structure more practical. Sections No. 1 and No. 3 are still in operation. Section No. 1 now spills the Stone Dam water into Crystal Springs and the only water going to San Andres through the No. 3 section of the aqueduct is that which is picked up at San Mateo Creek Dam No. 2.

The diversion flume from San Mateo Creek Dam No. 1 and a short section of the Pilarcitos aqueduct at the same location are badly in need of replacement.

The Crystal Springs-San Andres aqueduct continues to have several leaks that as yet we have been unable to locate. There were comparatively few earth slides along the canal during the past winter.

Peninsula General:

The fence on the south and east sides of the Millbrae pump lot has been rebuilt with metal posts and Elwood lawn mesh wire.

The interior of the foreman's cottage at Millbrae was renovated. New windows

in the front part of the house, a new kitchen sink and an additional heating unit were installed. At the assistant superintendent's cottage the living room was enlarged by eliminating the partition separating it from the hall, a shower was installed in the bath room and a tool and bulb shed built.

One truck was replaced, the Graham being turned in and a Mack purchased in its place.

The Department's telephone system operated normally except that a light tirex cable was installed as a submarine telephone cable across Dumbarton Strait. The circuit formerly used was in a cable belonging to the Western Union Telegraph Company. It shorted out and has not been replaced.

Alameda General:

Investigation of a number of complaints of dirty water by Sunol consumers revealed the source of the trouble in a cross-connection between the Water Department's supply and a spring maintained by a Sunol consumer. The investigation further revealed a total of eight actual and three potential cross-connections with other sources in the Town of Sunol. Check valves, in conformity with State Board of Health regulations, were installed on the eight services having cross-connections. At the three potential cross-connections either regulation check valves were installed or the other source discontinued.

Three suspension bridges at the Sunol filter beds were largely rebuilt and painted. The two surface intakes to Forebay B, which had not been used for several years, were put in good working order and were painted. The fences at the picnic grounds were given a major overhaul.

Stream gauging stations throughout the division were maintained as usual. The suspension bridge at the Upper Alameda Creek station was largely rebuilt.

Alameda County Water District:

In conformity with the agreement of September 24, 1936, the Department continued to release water into the underground gravels of the Alameda County Water District. During the past year 2,374 million gallons of released water were absorbed by these gravels. Of this quantity, 458 million gallons were free water due the District in conformity with the District's recognized rights and the balance, 1,916 million gallons, was advance release. The total advance release to June 30, 1939, was 16,532 million gallons. Of the past year's release, 642 million gallons were delivered through the Alameda pipe line to the District's absorption area north of Centerville and 1,732 million gallons were released down Alameda Creek and absorbed into the underlying gravels.

In January, 1939, the District began purchasing all its domestic water supply from the Water Department. Service was first made to the District at the Niles reservoir. Since June 29 service has been made from the Bay Crossing pipe lines at a point 7/10 of a mile northwest of Irvington. This domestic service has averaged about 4 million gallons per month.

Pleasanton Township County Water District:

A 20 h.p. deep well pump was substituted for a 25 h.p. pump in the Water Department's so-called Town Supply Well opposite the junction of Black Avenue and Santa Rita Road. Frequent repairs were required on the 3,000 feet of 10-inch

slip joint pipe which carries the water from this well to the Town of Pleasanton.

The high water table at Pleasanton relieved the Water Department from its obligation under an old agreement of furnishing water to the Town of Pleasanton, from February 25, 1939, to June 2, 1939. For the same reason, it was not necessary to furnish any free water to the Castlewood Country Club. However, under the various present agreements with other Pleasanton Water District landowners, the Water Department was not relieved from paying pumping bills, even though some Water Department wells were flowing above the ground surface. The Department was obligated to pay its regular share of the power bills of two of these landowners (Briggs and Baldwin) even while their wells were flowing artesian into Laguna Creek.

Outside Meters:

During the year, the City of Palo Alto, Moffett Field, and the California Water Service Company, at Menlo Park, all started taking water from the newly constructed 36-inch Palo Alto pipe line.

The several privately-owned water systems supplying water in the City of Hillsborough were taken over by the municipality. Several new services were installed and Hillsborough is now using San Francisco water exclusively.

As mentioned elsewhere in this report, the Alameda County Water District started purchasing their entire domestic water requirements of about 4 million gallons per month from this Department in January, 1939.

The number of consumers' meters installed in the suburban districts were increased by 31 to a total of 783. Of this total, 720 were in service and 63 were temporarily shut off on June 30, 1939.

CITY DISTRIBUTION DIVISION

Water Consumption:

The average daily consumption during the year was 63,268,769 gallons, an increase of 4,993,648 over last year which is an increase of 8.57 per cent. For the City alone the consumption was at the average rate of 56,936,876 gallons a day, an increase of 3,649,990 gallons or 6.85 per cent. The suburban use increased from 4,989,235 gallons a day last year to 6,332,893, an increase of 1,343,658 gallons a day or 26.93 per cent.

The Merced Manor district consumption decreased 3.7 per cent. All other districts had an increased consumption, the increases being as follows: Forest Hill, 14.2 per cent; Stanford Heights, 4.7 per cent; Lake Honda, 12.8 per cent; College Hill, 4.7 per cent and University Mound 1.5 per cent.

The greatest percentage increase was in Forest Hill, however, as the actual increase in consumption was only 41,057 gallons a day, with pumping capacity 850,000 gallons a day, an average use of 330,417 gallons a day, the capacity of the pumping system is sufficient for the next few years. The available storage for this district, however, is only 300,000 gallons which is less than one average day's consumption, making the installation of a second tank a matter of some urgency.

The greatest volume increase in consumption was in the Lake Honda district where this year's daily average use was 2,725,222 gallons more than the previous year and more than any year in the history of San Francisco's water supply; last year being the year of next largest consumption in that district.

In 1929-30 when the City took over operation of the water system the Lake Honda consumption averaged 17,176,164 gallons a day. This year, nine years later, the average is 24,062,374 gallons, an increase of 6,886,210 or 40 per cent.

For June, 1939 the average daily consumption in the Lake Honda district was 27,909,193. As the maximum capacity of the 54" San Andres pipe line is not more than 34 million gallons a day some arrangement for increasing the supply to that district must be made very soon.

The Stanford Heights district with its daily average consumption of 7,145,342 gallons for the year and 8,308,834 gallons for the month of June is also very close to the capacity of the pumps which supply it. Within another year a new pump of about three million gallons a day should be installed.

Transmission Mains:

No additions were made to the transmission mains during the year nor was there any serious trouble with them.

The grading of the block between Mt. Vernon and Ottawa Avenues necessitated the relocation of the old San Andres transmission line in that area. The portion of the original line from Ottawa Avenue south is still in service, but is in bad condition. This pipe in large part runs through land still undeveloped so that it is not advisable to relay or replace it until the property is developed and streets brought to grade.

City Reservoirs:

During the year W.P.A. forces developed a very pretty park on the Bay Street frontage of the Francisco Street reservoir. Otherwise no changes were made in the reservoirs or tanks. All are in general good condition.

The Lombard reservoir was cleaned during January, the work taking three days and costing $309.00.

Water was first turned into the Sunset reservoir on July 22, 1938.

The landscaping of Sunset and University Mound reservoirs was set up as a W.P.A. project but no work has as yet been started.

Lake Honda Screen House:

The Lake Honda Screen House has been in operation all of the year. It is in good condition and should require no maintenance during the short period it will remain in use.

Lake Merced:

No water was taken from Lake Merced during the year. The W.P.A. road work is about finished. During the latter part of the fiscal year a fishing concession on the lake was awarded to Tom Cusick who constructed a boat-house and club-house and put about fifty row boats on the lake.

Pumping Stations:

Central Pumps have been operated during the entire year and have pumped 2,605,931,000 gallons into the Stanford Heights district. This is an average of 7,139,537 gallons a day. The machinery and the building are in good condition.

MERCED MANOR RESERVOIR
Landscaping in keeping with the surrounding homes in this beautiful tract was carried out as a W.P.A. project.

The machinery in the Black Point Pumping Station was sold and the building will be torn down. Precita Valley was run awhile from January 28 to March 5, pumping a total of 23,500,000 gallons. The small pumps in the isolated high level districts were run throughout the year. No water was taken from Sunset Wells.

Meter Expense:

The routine maintenance of meters and meter settings was carried on during the year. There were 3,840 meters changed and 931 brought home.

City Pipe System:

The usual small extensions were made to the City Pipe System to furnish water to new consumers or to improve conditions. No large jobs were undertaken. The details are given in the statistical data at the end of the report.

Service Connections:

During the year 2,995 domestic and commercial services were installed. Of these 807 were put in under contract and 2,188 were installed by the service crew. In addition 7—6″ and 6—8″, a total of 13, fire services were installed.

Street Department Expense:

The routine work of blowing off dirty water and answering miscellaneous complaints was carried on during the year. Nothing unusual occurred in this line of work.

Machine Shop:

The Machine Shop has had their usual active year in the maintenance of automobiles and equipment and in the manufacture of articles upon which they have been the successful bidder. No new equipment has been added to the shop.

Main Extension Contracts by the Department:

Under the provisions of the Charter, any extensions to the system costing in excess of $1,000.00 must be constructed by public contract. The department, however, is permitted to enter a bid on such work in competition with the general contractors.

During the year the department was awarded six such contracts on which it was the low bidder. These have been completed with a material overall saving to the City as shown in the tabulated list below:

Contract No.	Water Dept. Bid	Actual Cost	Next Lowest Bidder	Saving to the City
185	$2,052.30	$1,705.91	$2,150.80	$444.89
195	2,384.00	2,030.89	2,464.75	433.86
198	3,058.55	2,653.32	3,173.50	520.18
199	1,474.70	939.68	1,540.42	600.74
204	2,195.65	2,220.26	2,395.30	175.04
206	1,023.05	966.27	1,175.10	208.83
Total	$12,188.25	$10,516.33	$12,899.87	$2,383.54

WATER PURIFICATION DIVISION

The general scope of the work of the Water Purification Division has continued to widen over previous years, much time being devoted to special investigations. Some decrease in routine work has been necessitated by decreases in the staff. Two of the older employees of the Division resigned during the year to accept more responsible positions in other organizations and up to the end of the fiscal year it has not been possible to satisfactorily fill these vacancies. Chlorination control has been continued and special studies made of algae and weed control. The program for eliminating or correcting cross-connections has been continued, extending this work with relation to hazards in building pipe systems. Some studies were made in connection with special problems at the Golden Gate International Exposition and a large volume of work done in connection with litigation.

Laboratory:

The laboratory and Purification Division office continue to be housed in the old pump building at Millbrae, some new equipment has been purchased and some rearrangement of laboratory facilities effected. The present laboratory quarters are ill-suited to the requirements besides being somewhat crowded and inadequate. The menace of fire is a serious consideration as loss of equipment and records would be a serious handicap to the Department. A safe was purchased in which some of the more expensive equipment and a few of the records are kept.

Following is a tabulation of the samples examined in the laboratory during the fiscal year:

Bacteriological Examinations	4,077
Partial Chemical Analyses	671
Complete Mineral Analyses	50
Microscopical Examinations	450
Dissolved Oxygen Tests	470
Filamentous Organisms, Inoculations and Examinations	5,400
Examination of Wells and other Sources	231
Corrosion Tests	140
Electrical Conductivity Tests	2,930
Miscellaneous Field Chemical Tests	3,530
Nitrogen Cycle Determinations	19
Specific Gravity and Chloride Tests on Sea Water	829
Complaint Investigations (Field and Laboratory)	160

Chlorination:

Chlorination of the water supply has been continuous at all of the regular chlorinating stations throughout the year. Draft on the Hetch Hetchy sources was again necessary and water was again turned through the aqueduct on March 8, and since that time the Tesla Portal Chlorinating Station has operated at high capacity. This is the first time the station has been in operation with a large flow since its construction.

Two 100-pound capacity ammonia machines were installed at the two San Andres outlets and have been in operation since July, 1938.

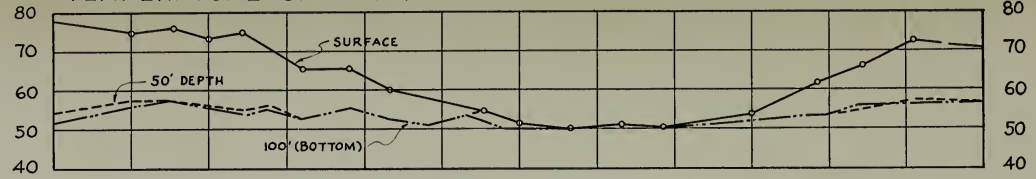
The portable chlorinating unit maintained at Millbrae has been used a number of times during the year for sterilizing new mains and pipe lines and for sterilizing new reservoirs. It was also used a number of times to sterilize the pipe line leading to the air base at Moffett Field. This work was done at the request of the United States Army which bore the expense involved. A total of 25 chlorinating machines with a combined capacity of 5,800 pounds of chlorine for 24 hours, and a total of 8 ammonia machines with a combined capacity of 955 pounds for 24 hours are in operation or reserve at 12 different stations located throughout the system. The effectiveness of the chlorination of the water supply is indicated on the report of laboratory examinations, which report shows that the treated waters are all far above the allowable limits for sanitary quality placed by the Federal Government for domestic water supplies. The policy of having the upkeep of the chlorinating equipment supervised by a trained employee detailed to that service has demonstrated its value and all equipment has been maintained in first-class condition, shut-downs being infrequent and of short duration.

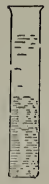
Algae and Weed Control:

All of the storage reservoirs have been maintained at high levels throughout the year and the quality of water withdrawn has been satisfactory. Copper sulphate treatments have been made as required, averaging two treatments per reservoir for the year. Microscopical examinations of samples from the reservoirs are made twice each week. The results of these examinations are noted on diagrams for Calaveras and Crystal Springs reservoirs. Copper sulphate has been applied by means of the new dispensing machines which were developed in this Department.

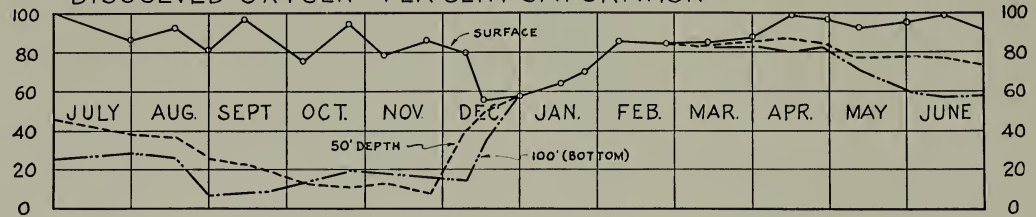
CALAVERAS RESERVOIR - 1938 - 1939

TEMPERATURE OF WATER - °F

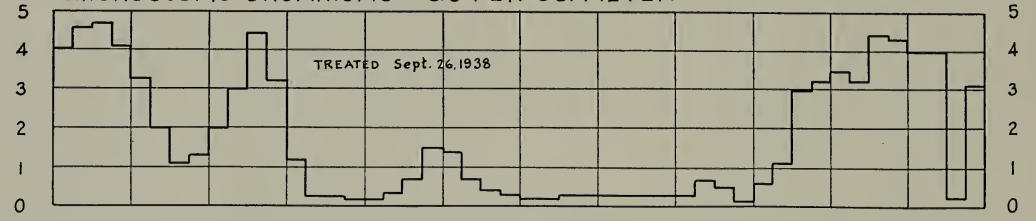




DISSOLVED OXYGEN - PER CENT SATURATION



MICROSCOPIC ORGANISMS - c.c PER CU. METER



The operation of the machines has been satisfactory and a considerable saving in cost effected. Two new machines were built during the year for use on peninsular reservoirs.

Weed growths have not been a particular factor in operating difficulties in the peninsular reservoirs since 1934 but they have, however, been the source of numerous complaints in the city. Weed growths were particularly heavy in College Hill and Lombard reservoirs during the fiscal year and both reservoirs were cleaned. It will be noted that the number of complaints of taste and odor show an increase over the last fiscal year but more than half of these complaints were occasioned by the weeds in College Hill reservoir which were removed in November. Weed growths will continue in these open distributing reservoirs until such time as the reservoirs are covered. A study of the biological condition of the water in the various reservoirs has been continued. Results of these studies are indicated on diagrams. By means of these studies, it is possible to use the outlet gate in each reservoir which will deliver the most satisfactory quality of water.

BACTERIOLOGICAL ANALYSES
SOURCES OF SUPPLY AND TREATED WATERS

Location		3 or More Tubes Positive			Portions Positive	
Sources and Reservoirs	Total Samples	No. of Samples	% of Samples (5% all'd)	Total No. of Portions	No. of Portions	% of Portions (10% all'd)
Early Intake	35	11	31.4	175	63	36.0
Priest Reservoir	43	18	41.8	215	88	40.9
Moccasin Reservoir	50	23	46.0	250	117	46.8
Crystal Springs Lake	52	4	7.7	260	41	15.8
San Andres Lake	53	1	1.9	265	34	12.8
University Mound Reservoir	104	1	1.0	520	26	5.0
College Hill Reservoir	104	44	42.3	520	229	44.0
Lake Honda Reservoir	104	2	1.9	520	30	5.8
*Central Reservoir	104	0	0	520	0	0
*Stanford Heights Reservoir	104	0	0	520	1	0.2
Calaveras Reservoir	15	1	6.7	75	11	14.7
Pleasanton Wells	59	4	6.8	295	38	12.9
Treated Water for Distribution						
Hetch Hetchy Aq. Bay Crossing	59	3	5.1	295	17	5.8
Crystal Springs Line	298	2	0.7	1,490	16	1.1
Alameda Line, Belmont	53	0	0	265	0	0
San Andres Line	299	1	0.3	1,495	10	0.7
North San Andres Line	298	0	0	1,490	11	0.7
University Mound Inlet	104	0	0	520	1	0.2
University Mound Outlet	104	1	1.0	520	6	1.2
University Mound System	104	1	1.0	520	7	1.3
College Hill Inlet	94	0	0	470	1	0.2
College Hill Outlet	105	1	1.0	525	3	0.6
College Hill System	103	2	1.9	515	9	1.8
Lake Honda Inlet	107	0	0	535	0	0
Lake Honda Outlet	104	0	0	520	1	0.2
Lake Honda System	104	0	0	520	2	0.4
Stanford Heights System	104	0	0	520	0	0
San Francisco Airport	106	0	0	530	4	0.8

*Covered Reservoirs.

SAN FRANCISCO WATER DEPARTMENT
MINERAL ANALYSES

(Results expressed in parts per million except pH)

Source	Crystal Springs Line	San Andres Line	Calaveras Line	Hetch Hetchy Aqueduct
Turbidity	0.5	2	10	1
Color	7	12	17	7
pH	7.5	7.7	7.3	6.7
Total Solids	140	153	166	36
Loss on Ignition	52	68	56	12
Fixed Solids	88	85	110	24
Silica and Insolubles	5.2	5.4	7.2	3.8
Sodium (by diff.)	5.8	6.1	2.8	8.1
Calcium	24.0	23.6	27.f	4.0
Magnesium	9.5	9.6	9.3	1.2
Iron	0.10	0.10	0.25	0.18
Aluminum	0.35	0.30	0.13	0.19
Manganese	0	0	0	0
Bicarbonate	100	99	107	22
Carbonate	0	0	0	0
Sulphate	16.9	15.7	19.0	8.6
Chloride	10.0	11.5	5.0	4
Total Hardness as $CaCO_3$	101	100	100	16
Alkalinity as $CaCO_3$	82	81	88	16

REPORT OF LABORATORY EXAMINATIONS

Week Ending July 1, 1939

Sources and Reservoirs	Max. Agar Count 37° C	Coliform Group 10cc. Por. No. Ex'd.	No. Pos.	% Pos. Year	Chemicals p.p.m. Alk.	Cl.	Hard	pH	Turbidity	Date Sample Pos.
Early Intake	900	5	1	36.0	8.0	0.0	16	8.4	1	6–30
Priest Reservoir	50	5	3	40.9	8.0	0.0	16	8.4	1	6–27
Moccasin Reservoir	1,680	5	5	46.8	8.0	0.0	16	8.4	1	6–27
Crystal Springs Lake	2	5	0	15.8	74	8.0	102	7.9	1	
San Andres Lake	4	5	0	12.8	80	13	102	8.3	1	
Univ. Mound Res.	3	10	3	5.1	74	8.0	102	7.9	1	6–26 2 6–29 1
College Hill Res.	1	10	10	44.0	80	13	102	8.3	1	6–26 5 6–29 5
Lake Honda Res.	7	10	6	5.8	80	13	102	8.3	1	6–26 2 6–29 4
Treated Waters										
Niles Reservoir	1	5	0	1.1	190	40	292	7.8	1	
Hetch Hetchy Aq. Bay X.	1	5	0	0.0	28	4.0	42	7.2	1	
Palo Alto Pipe Line	8	5	0	5.3	28	4.0	42	7.2	1	
Crystal Springs Line	3	25	0	1.1	74	8.0	102	7.9	1	
Alameda Line, Belmont	1	5	0	0.0	74	8.0	102	7.9	1	
San Andres Line	5	25	0	0.7	80	13	102	8.3	1	
No. San Andres Line	2	25	0	0.7	80	13	102	8.3	1	
Univ. Mound Inlet	2	10	0	0.2	74	8.0	102	7.9	1	
Univ. Mound Outlet	3	10	0	1.2	74	8.0	102	7.9	1	
Univ. Mound System	4	10	0	1.3	74	8.0	102	7.9	1	
College Hill Inlet	8	10	0	0.2	80	13	102	8.3	1	
College Hill Outlet	3	10	0	0.6	80	13	102	8.3	1	
College Hill System	170	10	1	1.8	80	13	102	8.3	1	6–26
Lake Honda Inlet	50	10	0	0.0	80	13	102	8.3	1	
Lake Honda Outlet	4	10	0	0.2	80	13	102	8.3	1	
Lake Honda System	7	10	0	0.4	80	13	102	8.3	1	
Central Reservoir	2	10	0	0.0	80	13	102	8.3	1	
Stanford Heights Res.	16	10	1	0.2	80	13	102	8.3	1	6–26
Stanford Heights System.	7	10	0	0.0	80	13	102	8.3	1	
Lombard System	2	5	0	7.4	80	13	102	8.3	1	
S. F. Airport	7	20	0	0.8	74	8.0	102	7.9	0.5	

Remarks: All water supplied to consumers conforms to standards.

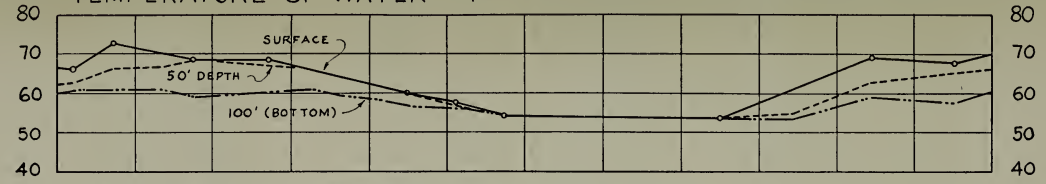
Filamentous Organisms:

The growth of slimes and other filamentous organisms has been satisfactorily controlled by judicious use of the Tesla and Calaveras chlorinating stations. These growths, which occasioned a good deal of trouble several years ago, have been satisfactorily controlled. Constant diligence is necessary to prevent recurrence of this trouble and a large amount of research and experimental study has been made on this problem. A small experimental treatment plant was set up along the Hetch Hetchy aqueduct at Ravenswood, where observations are being

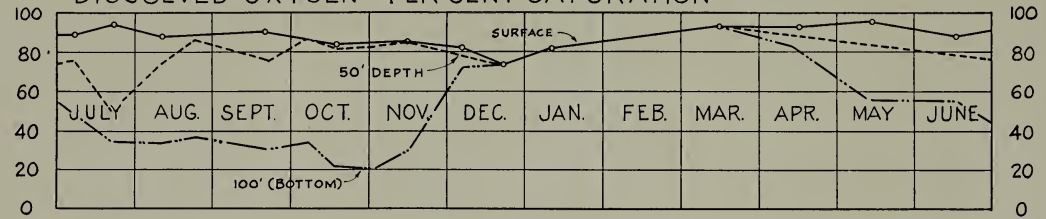
LOWER CRYSTAL SPRINGS RESERVOIR

1938 - 1939

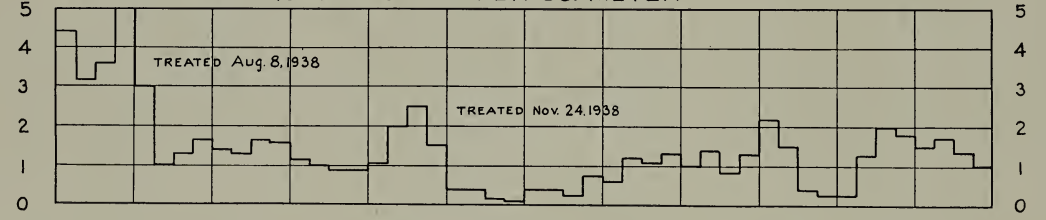
TEMPERATURE OF WATER - °F



DISSOLVED OXYGEN - PER CENT SATURATION



MICROSCOPIC ORGANISMS - c.c. PER CU. METER



made of the water and its reaction to treatment. A large amount of research work in connection with this problem has been carried on in the laboratory.

Training School:

Instruction for Department employees whose duties are related to water treatment or involve handling complaints relative to water quality was continued; three sessions of the school were held. Two of these sessions were held at the laboratory at Millbrae, and the third consisted of a tour of part of the water system, visiting points where treatment of the supply is made. Talks were given in the Mason Street building to other employees of the Department to familiarize them with the system and with the purification control exercised. The employees manifest much interest in this training and its value to Department personnel is evident.

Cross Connections:

The protection of the San Francisco water supply against possible contamination through cross-connections with other sources of water supply and other potential hazards has been continued during the year. A number of new wells and other sources of supply were located and connections severed or protected by approved check valves. These protective devices are examined and tested at six-month intervals by the Purification Division. The survey of hazardous plumbing within hotels made during the preceding year was followed up to see that corrections in the plumbing were made. All of the hotels conformed with the requirements and made the necessary corrections.

The conditions found and the beneficial results obtained through the hotel survey indicate the desirability of extending the survey to include dwellings used for other business and industrial purposes.

Complaints:

The number of bad water complaints received from consumers during the year showed a further decrease over previous years. The number of complaints of this nature has steadily decreased for the last six years. There was a slight increase in the number of complaints of bad taste or odor received during this year. The majority of these complaints were occasioned by weed growths in College Hill and Lombard reservoirs. More than half of the total complaints received of taste and odor were from the College Hill system during November. Weed growth in Lombard reservoir occasioned quite a number of complaints during July and August. Aside from the trouble incidental to the two open reservoirs, the number of complaints from taste and odor in the system averaged only three per month. The largest number of complaints received are for dirty or discolored water. This condition is due to the fact that the street mains contain quantities of silt, deposited during period of low flow, but which upon suddenly increased draft is agitated causing the turbid condition to prevail. A program of systematic flushing of the distributing system will aid materially in eliminating this source of complaint. The Purification Division has been called on to investigate many of these complaints and has done considerable work in ascertaining the causes and in rectifying the same or in assisting consumers to rectify difficulties depending upon the responsibility. Assistance has been rendered to many industrial plants with reference to the water problems, affecting their particular industry.

Corrosion:

A study of the problem of pipe corrosion has been continued along the lines outlined in the last annual report. These studies have been curtailed to some extent due to press of other work but the study of the corrosive effect of the various waters on test specimens is being continued, both in the laboratory and in the field. The temporary plant installed at Hetch Hetchy junction for introducing a small amount of lime into the water to reduce the corrosive effect has not operated during the fiscal year as funds were not available. The study of the effect of lime treatment on Hetch Hetchy water, however, has been continued in the laboratory and data are being accumulated which will prove of value in future operations. The problem of corrosion is one of paramount importance in any water system, particularly one with soft waters, and constant attention as to its effects and necessary preventive treatments will bring large dividends in reduced maintenance, both in the system piping and in the consumers' premises. Some study of effects in the piping of some of the larger consumers is being made. The number of complaints of corrosion difficulties has decreased within the last year due to the changing character of the water, occasioned by the larger production of local water following the heavy rainfall of the preceding winter. It is expected that complaints of this nature will again increase within the next few months following the heavy draft of Hetch Hetchy water during the present dry year.

Exposition Studies:

In cooperation with officials of the Golden Gate International Exposition, a number of problems on Treasure Island were investigated by the Purification Division. Operating difficulties in connection with the lagoons and the fountains on the Fair grounds were studied by the division and recommendations were made to the Exposition officials for treatment of the water supply to overcome these difficulties.

General:

Aside from the work directly connected with the water supply, the division has investigated problems of special interest affecting the Water Department and has performed service for other departments. Much of this outside work was done by the Purification Division in connection with the Hetch Hetchy litigation. An extensive study was made of the chloride content of bay waters as affected by water released by the Department in connecting sloughs. Data are also being compiled in connection with quality of irrigation water in the San Joaquin River.

WATER SALES DIVISION

Gross Water Sales for the fiscal year were $7,042,988. After deduction of allowances, refunds and losses amounting to $23,924 net sales were $7,019,064, an increase of $164,504 or 2.4 per cent, as compared with the fiscal year 1937-38. Suburban accounts increased $60,853 and San Francisco accounts $103,651. Revenue from the new Palo Alto pipe line amounted to $63,531 for a metered delivery of 57,126,600 cubic feet. The number of active consumer accounts on June 30, 1939, was 117,189 as compared with 115,369 on June 30, 1938, an increase of 1,820. Deliveries of water to the Golden Gate International Exposition valued at $5,233 in 1937-38 and $29,800 in 1938-39 are not included in sales. The Public Utilities

Commission entered into an agreement in which the Exposition Company finances the construction of facilities from the mainland to the Exposition site, consisting of pumping station, pipe line on San Francisco-Oakland Bay Bridge, reservoir on Yerba Buena Island and distributing system on Treasure Island. Under terms of the agreement the water system became the property of the San Francisco Water Department upon completion in exchange for water furnished the Exposition Company at a value not to exceed the amount expended by them for the costs of the system. In connection with the sales record, comparison of charges for the past two years is shown in Non-Paying Municipal Accounts. These sales for the year 1938-39 totalled $476,352 as against $438,823 for the year 1937-38, an increase of $37,529. Of this increase $27,276 is shown in Public Parks usage and $6,150 in Works Progress Administration Projects.

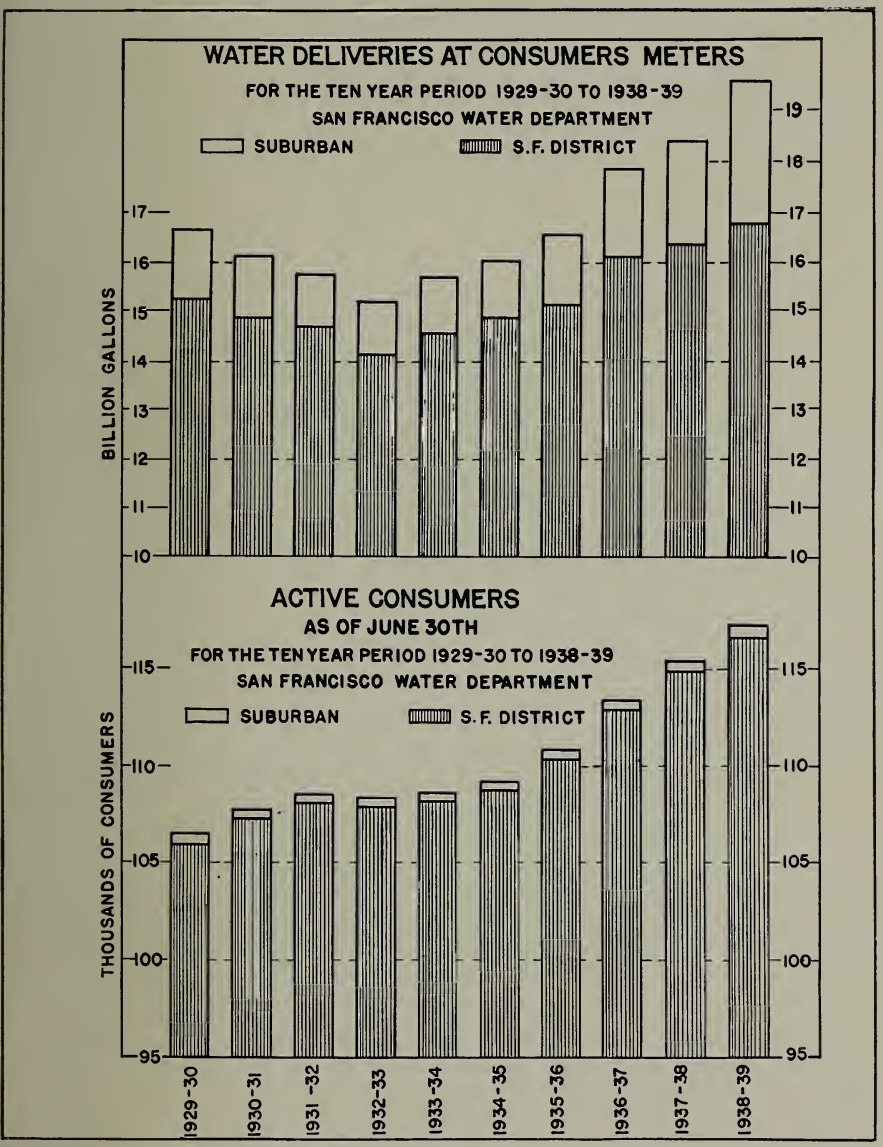
The total amount of bills in Suspense is $5,312.84. Bills written off during the period amounted to $4,476.08, an increase over the previous year of $1,058.06. Of the total written off, $1,489.15 is accounted for in Board of Trade and Bankruptcy proceedings as compared with $636.79 in the preceding fiscal year. We hold in active suspense those accounts for which we receive dividends or partial payments from the Board of Trade or from Receivers until such time as they are definitely closed issues; any remaining unpaid balances are then included in write-off. Accounts totalling $2,501.59 are now being handled in this manner.

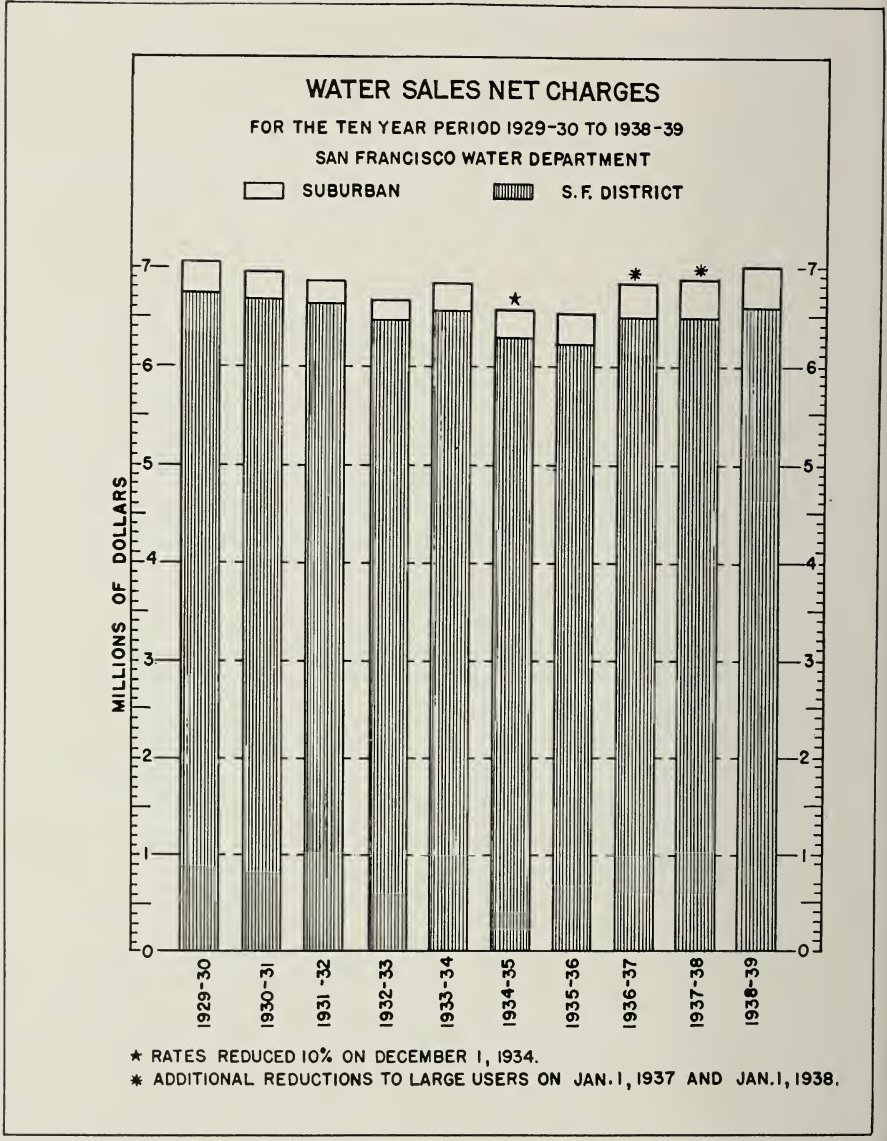
The record of service and distributor installations shows 3,395 as against 2,280 last year, an increase of 1,115 or 48.9 per cent. There are 118,994 active services, all metered, of which 116,632 are revenue producing and 2,362 are temporarily shut off, an increase of 2,486.

Building permits issued for the year show a gain of 1,370, for an increase of $8,144,746. Permits issued for the year were 8,662 for a total of $27,342,166. Frame structures almost wholly residential construction account for 43.7 per cent of the value shown, indicating continued activity in home building. The activities of builders and contractors are closely followed and water deliveries carefully checked during construction and installation work. A total of 3,286 jobs handled reflected an increase of 810 over the previous year. The work included inspection of an average throughout the year of some 800 residences in course of construction, schools, playgrounds, installation of distribution mains, street widening, grading and paving in subdivisions and construction of new boulevards. In addition, daily contact was necessary with contractors engaged in the construction of the Park-Presidio Boulevard extension through the Presidio and its approaches to the Golden Gate Bridge.

Our collection record indicates but slight change compared with last year. The ratio of collections to net sales for the fiscal year 1938-39 was 92.4 per cent, a decrease of 1.4 per cent. This decrease is accounted for in bills of one month only. Branch bank agencies numbering 92 collected 33.4 per cent of the total bills issued, again an increase of nine-tenths of 1 per cent. Our regular department collectors handled 83.7 per cent of the bills issued, collected 28.7 per cent, a decrease of four-tenths of 1 per cent. The average number of bills handled by regular collectors per man-day have increased from 231 last year to 237 and the average collected per man-day from 67 to 68. Activity of our motorized special collector continues to show favorable results, the record showing that 63.2 per cent of the total bills handled were collected as compared to 58.3 per cent the previous year.

The collection procedure remains the same including the use of a third Shut-Off Collector to offset the loss of effort in this phase of collections due to the necessity


WATER DELIVERIES AT CONSUMERS METERS
FOR THE TEN YEAR PERIOD 1929-30 TO 1938-39
SAN FRANCISCO WATER DEPARTMENT
SUBURBAN
S.F. DISTRICT
BILLION GALLONS
10
11
12
13
14
15
16
17
18
19
ACTIVE CONSUMERS
AS OF JUNE 30TH
FOR THE TEN YEAR PERIOD 1929-30 TO 1938-39
SAN FRANCISCO WATER DEPARTMENT
SUBURBAN
S.F. DISTRICT
THOUSANDS OF CONSUMERS
95
100
105
110
115
1929-30
1930-31
1931-32
1932-33
1933-34
1934-35
1935-36
1936-37
1937-38
1938-39


WATER SALES NET CHARGES
FOR THE TEN YEAR PERIOD 1929-30 TO 1938-39
SAN FRANCISCO WATER DEPARTMENT
SUBURBAN
S.F. DISTRICT
MILLIONS OF DOLLARS
0
1
2
3
4
5
6
7
1929-30
1930-31
1931-32
1932-33
1933-34
1934-35
1935-36
1936-37
1937-38
1938-39
★ RATES REDUCED 10% ON DECEMBER 1, 1934.
✱ ADDITIONAL REDUCTIONS TO LARGE USERS ON JAN. 1, 1937 AND JAN. 1, 1938.

of using one of these men for emergency relief when illness or accident deprives us of the services of a Shut-Off Man in the Service and Supply Section. His services are also required to help absorb heavy demand in outside activity of this section for two or three days twice each month at which time there is peak movement of consumers to new addresses. This plan has assisted, in part at least, in reducing the percentage of delinquent bills. The percentage of delinquent bills as of June 30, 1939, carrying unpaid balances of one month or more decreased 1.1 per cent. Result of consistent effort to reduce the amount of unpaid balances is shown in a percentage comparison of total delinquencies on June 10, as follows:

1936.....27.5 per cent	1938.....25.1 per cent
1937.....25.3 per cent	1939.....24.0 per cent

Statistics and data relative to the activities of the Sales Division are appended.

ENGINEERING DIVISION

The past year has been one of somewhat reduced activity following five years of work on the twelve million dollar Public Works Administration construction program started in 1933 and completed in 1938. Resignations and lay-offs have correspondingly reduced the personnel to what may be considered a normal operating number.

Plans and specifications were prepared for 26 formal contracts awarded for a total estimated amount of $353,567.18. Supervision and inspection were provided on 30 jobs involving $220,891.57 of contract work completed during the year.

Hydraulic studies of numerous carefully controlled tests with a 1/40 scale model of the Calaveras Spillway and Stilling Basin, begun in the preceding fiscal year, were completed. These studies were the means of arriving at a conservative, economical design for replacement of the Stilling Pool and preparation of the creek channel below for handling large flows of flood water. Contract for the construction was held back so that contractor would not start operations until after the 1938-39 rainy season. This work is now in progress.

Other work performed, not involving construction contracts, included preparing descriptions and conditions affecting real estate transactions involving Water Department property; studies of electrolysis control on transmission pipe lines; furnishing attendants for the Public Utilities Commission exhibit at the Golden Gate International Exposition; making a complete set of shop drawings of 4-inch to 24-inch Water Department standard gate valves; and various other regular maintenance and operation jobs.

Considerable work was performed by this office for the Municipal Railway in connection with alterations and repairs of the car barns and construction of waiting stations and on construction of car tracks to the Bay Bridge Terminal. Also, preliminary plans were drawn for a proposed Municipal Railway bus garage and yard.

Preliminary studies and surveys were made of several improvements which will be required by the Water Department in the near future and various small jobs were done for the other City-owned Utilities.

New metal shelving was installed in the drafting room to better care for the growing volume of records, reports and books on file in this department. The

Works Progress Administration has throughout the year maintained a crew of two or three men repairing and filing old maps and Engineering Department records.

Following is a brief description of construction work performed under contract during the past year:

Contract Let Under 1935 P. W. A. Grant—P. W. A. Docket No. 1132:

Contract No. 166—Providing for a Temple and other improvements at the Pulgas Outfall, was completed on July 28, 1938, and marked the completion of all work under this P.W.A. program. The main features of the contract were construction of a 25-foot diameter by 60-foot high ornamental cast stone temple with a 12-foot circular weir in the substructure, moving 5,978 cubic yards of earth for landscaping, and placing 3,622 square feet of crushed rock and stone walks. Contract for this work was awarded to W. O. Tyson on January 14, 1938, and was completed on July 28, 1938, at a contract cost of $38,439.77.

Contracts for Normal Additions and Betterments:

The following contracts were financed from operating revenues or from consumers' deposits under the Department's refunding rules.

1. Additions to City Distributing System:

In all contracts involving the laying of cast iron pipe, or the installation of services, it is required that the contractor purchase the pipe and fittings to be used from the Water Department. The cost of this material and engineering and inspection costs are included in the contract price.

Contract No. 172—Covered the laying of 4,643 feet of 6-inch cast iron pipe in 19th Avenue from Lincoln Way to Lawton Street. The contract was awarded to Martin Murphy on July 25, 1938, and was completed November 10, 1938, for a contract cost of $7,228.33.

Contract No. 174—For the replacement of the tubes in the two Wheeler condensers at the Central Pumping Station, was awarded to the California Steel Products Company on April 11, 1938, and was completed July 26, 1938, for a lump sum price of $4,210.00.

Contract No. 176—Provided for the installation of 10 services in Arlington Street and the laying of the following 6-inch cast iron pipe:

490 feet in Arlington Street from Bosworth to Wilder
520 feet in Girard Street from Ordway to Mansell
300 feet in Mansell Street from Girard to San Bruno

The contract for this work was awarded to E. J. Treacy on June 13, 1938, and work was completed August 11, 1938, for a contract cost of $2,541.70.

Contract No. 177—Covered the installation of 36 services and the laying of 360 feet of 4-inch, 847 feet of 6-inch and 804 feet of 8-inch cast iron mains in Section 1 of Lakeside Subdivision No. 2. The contract was awarded to W. J. Tobin on June 13, 1938. Work was completed on June 18, 1938, for a contract cost of $3,839.60.

Contract No. 180—Covered the laying of the following cast iron mains:

551 feet of 6″ in Merced Manor Subdivision—Eucalyptus to Ocean
664 feet of 8″ in 25th Avenue—Ortega to Noriega
370 feet of 8″ in Alemany Boulevard—Foote to Ottawa

Also included was the installation of 51 services. The contract for this work was awarded to E. J. Treacy on July 5, 1938, and was completed July 26, 1938, at a contract cost of $3,752.83.

Contract No. 181—For the laying of 794 feet of 6-inch cast iron pipe and the installation of 45 services in Wabash Terrace, was awarded to E. J. Treacy on July 25, 1938. Work was completed August 24, 1939, at a contract cost of $1,770.60.

Contract No. 183—Provided for the laying of 212 feet of 4-inch cast iron pipe in Shawnee Street—San Jose Avenue east and 202 feet of 8-inch cast iron pipe in Mt. Vernon Street—Ortega to San Jose. Also included was the installation of 21 services. The contract was awarded August 9, 1938, to Martin Murphy, and was completed October 12, 1938, for a contract cost of $1,129.98.

Contract No. 184—Covered the installation of 45 services and the laying of the following cast iron pipe:

301 feet of 6″ in Foote Street—Alemany to Cayuga
715 feet of 6″ in Athens Street—Excelsior to Avalon
230 feet of 8″ in Cayuga—Foote to Rome

The contract was awarded to E. J. Treacy on August 29, 1938, and work was completed April 18, 1939, for a contract cost of $2,885.75.

Contract No. 185—For the installation of 400 feet of 6-inch cast iron pipe and 19 services on 29th Avenue—Noriega south, and the laying of 370 feet of 8-inch cast iron pipe in Noriega Street—29th to 30th Avenues. The contract was awarded to the San Francisco Water Department on September 12, 1938, and work was completed November 5, 1938, for a contract cost of $1,705.91.

Contract No. 187—Covered the installation of 124 services and the following cast iron mains:

731 feet of 6″ in 38th Avenue—Lawton to Kirkham
731 feet of 6″ in 39th Avenue—Lawton to Kirkham
740 feet of 8″ in 37th Avenue—Lawton to Kirkham
692 feet of 8″ in Lawton Street—37th to 39th Avenues
352 feet of 8″ in Quintara Street—14th to 15th Avenues
928 feet of 12″ in Quintara Street—Cragmont Street to 14th Avenue

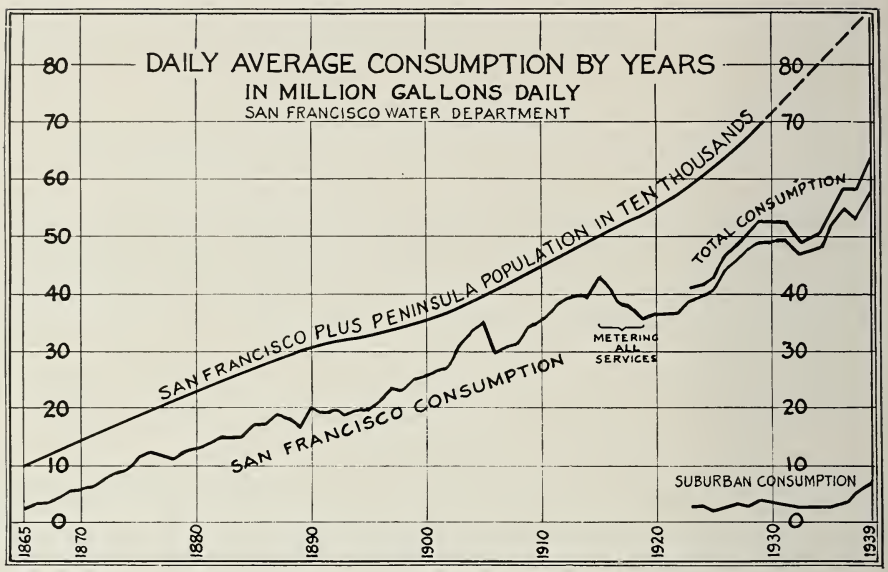
This contract was awarded to E. J. Treacy on October 10, 1938, and work was completed January 18, 1939, at a contract cost of $8,909.63.

Contract No. 188—For the laying of 2,186 feet of 8-inch cast iron pipe in an easement east of Third Street and along Islais Creek, was awarded to E. J. Treacy on January 23, 1939. Work was completed March 15, 1939, for a contract cost of $4,898.37.

Contract No. 190—Covered the laying of 656 feet of 8-inch cast iron pipe in Innes Avenue—Coleman to Donahue, and 848 feet in Coleman Street—Kirkwood to Hudson. The contract was awarded to E. J. Treacy on October 10, 1938, and was completed November 15, 1938, at a contract cost of $3,199.02.

Contract No. 191—Provided for the installation of 40 services and the laying of 660 feet of 6-inch cast iron pipe in 24th Avenue—Ortega to Noriega, and the laying of 512 feet of 8-inch cast iron pipe in Bayshore Boulevard from Alemany north. This contract, awarded to E. J. Treacy, on November 24, 1938, was completed December 7, 1938, for a contract cost of $2,363.15.

Contract No. 193—For the installation of 70 services and 1,407 feet of 6-inch and 3,456 feet of 8-inch cast iron mains in Lakeside Subdivision No. 2, was



awarded to the Lowrie Paving Company on October 24, 1938. Work was completed December 16, 1938, for a contract cost of $8,605.01.

Contract No. 194—For the installation of 89 services and 1,275 feet of 6-inch and 525 feet of 8-inch cast iron mains in Masonic Avenue and Ewing Terrace, was awarded to E. J. Treacy on November 28, 1938. Work was completed January 13, 1939, for a contract cost of $3,741.26.

Contract No. 195—Covered the laying of 675 feet of 6-inch cast iron pipe in 40th Avenue—Lawton to Moraga, and 301 feet of 8-inch in Lawton Street—39th to 40th Avenue. Also included was the installation of 28 services. This contract was awarded to the San Francisco Water Department on December 19, 1938, and completed March 28, 1939, at a contract cost of $2,073.95.

Contract No. 197—Providing for the laying of 560 feet of 6-inch cast iron pipe in Los Palmos Drive and in Melrose Avenue was awarded to E. J. Treacy on December 27, 1938, for an estimated bid price of $1,361.90. Due to a delay in bringing Melrose Avenue to grade, this work was only 15 per cent complete on June 30, 1939.

Contract No. 198—Covered the laying of 350 feet of 6-inch cast iron pipe in 31st Avenue—Quintara Street south, 943 feet in 28th Avenue—Ortega Street north, and 62 feet of 8-inch cast iron pipe in the intersection of 28th Avenue and Noriega Street. Also included was the installation of 19 services. The contract was awarded to the San Francisco Water Department on February 14, 1939, and completed May 19, 1939, at a contract cost of $2,748.01.

Contract No. 199—For the installation of 19 services and 391 feet of 6-inch cast iron pipe in La Salle Avenue—Third to Mansell, was awarded to the San Francisco Water Department on February 14, 1939. Work was completed March 7, 1939, for a contract cost of $1,107.11.

Contract No. 200—Covered the lowering and relocating of the 44-inch University Mound Pipe Line at Bowdoin Street. This work was necessary to bring the pipe below the street grade and involved the lowering of 158 feet, removing 215 feet and relaying in a new location 209 feet of 44-inch steel pipe. The contract was awarded to Eaton and Smith on February 27, 1939, and was completed April 24, 1939, for a contract cost of $4,145.90.

Contract No. 201—Provided for the installation of 202 services and the following cast iron mains:

1427 feet of 6" in 33rd Avenue—Lawton to Noriega Street
734 feet of 6" in 34th Avenue—Lawton to Moraga Street
734 feet of 6" in 35th Avenue—Lawton to Moraga Street
1030 feet of 8" in Moraga Street—32nd to 36th Avenue

This contract was awarded to Charles L. Harney on January 23, 1939, and completed March 24, 1939, at a contract cost of $7,176.98.

Contract No. 204—Covered the laying of 285 feet of 2-inch cast iron pipe in College Terrace, 238 feet of 8-inch cast iron pipe in Sixth Avenue—Kirkham south, and 471 feet of 8-inch in 36th Avenue—Vicente south. Also included was the installation of 12 services. The contract was awarded to the San Francisco Water Department on February 27, 1939, and was completed April 14, 1939, for a contract cost of $2,256.13.

Contract No. 205—Covered the installation of 8 services and 233 feet of 6-inch cast iron pipe in 27th Avenue—Rivera Street north and 223 feet of 8-inch cast iron pipe in Rivera Street—26th to 27th Avenues. The contract was awarded to the Lowrie Paving Company on April 10, 1939, and was completed May 16, 1939, for a contract cost of $1,202.34.

Contract No. 206—For the installation of 575 feet of 4-inch cast iron pipe and 12 services in Linda Street—18th to 19th Streets, was awarded to the San Francisco Water Department on May 8, 1939, and was completed May 18, 1939, at a contract cost of $1,060.37.

Contract No. 207—Covered the laying of 555 feet of 6-inch cast iron pipe in University Street—Silver to Sweeney and 317 feet in Sweeney Street—Colby west. The installation of 35 services was also included. The contract was awarded to E. J. Treacy on May 8, 1939, and was completed June 7, 1939, for a contract cost of $1,855.42.

2. *Additions to Supply and Transmission Facilities:*

Contract No. 156—For the construction of the Palo Alto Pipe Line from Redwood City to Palo Alto, was awarded to Macco-Robertson, Ltd., on October 25, 1937, and all work was completed August 13, 1938. The contract cost of $217,046.96 does not include the cost of the 36-inch by ¼-inch steel pipe which was salvaged from the Corral Hollow Pipe Line, but it does include the cost of removing and reconditioning the pipe. The major items of this contract were the excavation of 27,850 cubic yards of trench and the removing from the Corral Hollow Line, reconditioning and relaying in the Palo Alto Line of 27,995 feet of 36" x ¼" welded steel pipe. Before being relaid, this pipe was all thoroughly cleaned, relined and recoated with bituminous enamel and covered with felt wrapping.

Contract No. 182—For preliminary excavation and pipe relocation for reconstruction of the Calaveras Stilling Basin, was awarded to the Sibley Grading and Teaming Co. on August 9, 1938, and was completed December 30, 1938, at a contract cost of $18,565.68. The major part of this work was to remove 27,987 cubic yards of unstable earth from the slide area on the steep hillside west of the Stilling Basin and deposit it on the easterly side of the Spillway channel opposite the downstream portion of Calaveras Dam. The balance of the contract covered the relocation of the 36-inch discharge pipe so as to bring it clear of the proposed new Stilling Basin. This involved removing and relaying 303 feet and laying an additional 548 feet of 36-inch welded steel pipe and relocating the needle valve for discharging water into the creek channel.

Contract No. 192—Covers the reconstruction of the lower end of the Calaveras Dam Spillway which was destroyed by flood waters in February, 1938, and other incidental work. This contract was awarded to Eaton and Smith on March 13, 1939, for an estimated bid price of $220,472.50. Major items of the proposed construction are:

39,820 cubic yards of excavation
1,750 square yards of riprap
11,150 cubic yards of concrete
780,000 pounds of reinforcing steel
24,000 pounds of miscellaneous metal work
2,600 feet of grout hole drilling
15,000 sacks of cement grouting
1,040 feet of 44-inch steel pipe relocation

This work was 12 per cent completed as of June 30, 1939.

3. Miscellaneous:

Contract No. 178—Covered the repaving of street and sidewalk openings made by the Department for installation or repair work during the fiscal year 1938-39. The contract was awarded to the Pacific Pavement Company, Ltd., on June 13, 1938, and terminated June 30, 1939. Payments under this contract totalled $31,310.95. Repaving over trenches opened by contractors was not included under this contract as each contractor provided for his own repaving under the various pipe laying contracts.

Contract No. 186—Provided for alterations on the fourth and seventh floors of the Mason Street office building. Rooms 401, 402, 403, 404 and 405 were painted, acoustical celotex was applied to the ceilings and new light fixtures and metal radiator covers were installed. New light fixtures were installed in rooms 703 and 704 and acoustical celotex was applied to the ceiling of room 704. The contract was awarded to the Western Asbestos Company on September 12, 1938, and was completed for a lump sum payment of $1,983.00 on November 10, 1938.

AGRICULTURAL DIVISION

As of July 1, 1939, the land owned in fee was 63,874.1536 acres, or a decrease of 4.4334 acres in the acreage shown in the last annual report, which decrease is accounted for as follows:

In San Francisco County—		
Purchase for Sunset Reservoir	0.0573 acres	
In San Mateo County—		
Purchase of Babcock Tract	0.8333 acres	
Net increase		0.8906 acres
In Alameda County—		
Parcel No. 71—Sale to Kaiser Co.	3.6100 acres	
Parcel No. 71—Sale to Busch et al	1.7140 acres	
Net decrease		5.3240 acres
Total net decrease		4.4334 acres

Of the total 63,874 acres there are at present under lease about 34,337 acres included in 164 leases. The leased area is less than last year by about 75 acres, the larger acreage changes being as follows:

Decreases:	A. Mendoza leases	111 acres	
	M. S. Costa—lease not renewed	18 "	
	Spring Valley Co.—lease not renewed	17.5 "	
	Hearst Radio—lease terminated	6.3 "	
	Hanrahan Company—lease terminated	1.0 "	
Net decrease			153.8 acres
Increases:	C. Dutra—new lease	50 acres	
	J. Geary—added to lease	10 "	
	M. Mendoza—added to lease	10 "	
Net increase			80.0 acres
Total net decrease			73.8 acres

SUMMARY

	Total Acreage	Leased Acreage	No. of Tenants	Cash Rental	Share Crop Rental
Alameda and Santa Clara Co's.—					
Sunol District	37,158.920	32,760.730	46	$20,865.00	$4,376.64
Pleasanton District	867.344	697.950	12	9,095.75	296.11
Niles District	741.724	308.047	48	1,767.86	
Hetch Hetchy R/W	121.246	10.000	1	120.00	
	38,889.234	33,776.727	107	$31,848.61	$4,672.75
San Mateo County—					
Watershed	22,768.516	330.703	6	$6,812.60	
Outside Watershed	1,069.723	171.395	32	4,780.71	39.03
Hetch Hetchy R/W	198.311	29.360	2	610.00	
	24,036.550	531.458	40	$12,203.31	$39.03
San Francisco County	948.369	29.360	17	3,906.48	
Grand Totals	63,874.153	34,337.545	164	$47,958.40	$4,711.78

Of the leases taken over from Spring Valley Water Company in 1930, three are still active, viz., (1) Eaton & Smith, on a month to month basis for Parcel No. 31, San Francisco County Lands, (2) Empire Mines and Investment Company, expiring October 12, 1970, for a portion of the Crystal Springs Watershed adjoining the former Bourn Estate, now belonging to Matson Securities Company (W. P. Roth), and (3) The Olympic Club expiring May 31, 1941, for a portion of the Lake Merced Lands adjoining the Lakeside Golf Course.

In the matter of the Empire Mines and Investment Company lease, the clearing up of the transfer of this lease from said Company to the Matson Securities Company is still in the hands of the City Attorney for final action.

The lease of 485 acres at Pleasanton to the Grand Junction Sugar Company will expire on October 31, 1939, and we have been advised by them that, owing to governmental regulations in the sugar beet growing industry, they will not be permitted to again lease this tract. The new lease will therefore be submitted to bids for diversified farming purposes.

The Park Commission has continued the use of the Harding Golf Course on the Water Department property at Lake Merced Ranch without any arrangement being made for payment of rental therefor, as has been pointed out in previous annual reports.

As explained in the last annual report, 14 of the cattle-grazing leases were submitted to bids for a 5-year term from November 1, 1938. The amount of rental to be paid under these leases each year is now based on an average selling price of 8⅛ cents per pound instead of 5¾ cents as heretofore. This change reflects the increase in the selling price of cattle at this time over the prices which obtained when this method of leasing was first begun. An increase of $651.73 resulted from these bids. On the remaining five cattle-grazing leases which did not expire last year there was a decrease in rental from the preceding year of $112.75, owing to lower selling prices of cattle. The total net increase, therefore, was $538.98.

Unpaid rentals as at June 30, 1939, amounted to $14,035.68, of which sum $7,000.12 is carried against the account of the former Crystal Springs Country Club, which surrendered its lease as of May 1, 1938. This account is now in the hands of the City Attorney for adjustment. Of the balance of $7,035.56, $5,971.33 is classed as agricultural rental and $1,064.23 as non-agricultural. Of the agricultural amounts, $1,337.13 is still outstanding against the estate of a tenant who was accidentally killed in 1938, and it may be some time before this estate is finally settled. There is also the sum of $2,315.00 due on one of the cattle leases, which will be paid when the cattle are sold before the end of 1939. All of the remaining accounts, mostly in small amounts, will be paid in full as none of them are classed as doubtful.

Share Crops:

The 1937-38 share crop leases, 13 in number, yielded an amount of $4,711.78, which was considerably below the yield of the previous season, due to the very wet spring of 1938 and to the lower prices obtained for commodities. All of the crops were sold and paid for as at June 30, 1939, so that there is no carry-over in the warehouse.

The spring of 1939 was exceedingly dry and crops suffered accordingly. The yield will be considerably less than last year and prices for all commodities are very low, with practically no demand at the present time.

Use of Lands Not Leased:

The unleased lands consist of the following:

Sunol District—About 4,300 acres, in Calaveras Reservoir and rim land; Calaveras, Laguna and Alameda Creek beds, and gravel lands adjoining; and Sunol Walnut Orchard.

Pleasanton District—About 207 acres, in Laguna Creek and county roads.

Niles District—About 330 acres, in Alameda Creek and steep side hills in Niles Canyon adjoining, and marsh lands in Parcels Nos. 48 and 49.

Hetch Hetchy Right of Way in Alameda County—About 110 acres; most of the deeds to this property for surface use by the former owners.

Peninsula Watershed Lands—About 22,100 acres. In order to protect the Peninsula reservoirs from pollution, the Department objects to the leasing of this property, a large part of which would be suitable for grazing purposes.

Lands Outside of Watershed in San Mateo County—About 900 acres, consisting of about 645 acres of marsh land, 43 acres of Lake Merced Ranch, 115 acres of Silva Tract, 25 acres in Baden-Merced pipe line right of ways without surface rights, 40 acres in Aqua Pump Station and reservoir lots, and various small lots in pipe lines, etc.

Hetch Hetchy Right of Way in San Mateo County—About 169 acres, chiefly in right of way through subdivisional lots, on many of which the right to plant grass or gardens was reserved by the grantors. Use of the right of way for garden purposes has been encouraged by granting, through the Public Utilities Commission, revocable permits. About twenty of such permits have been issued. San Francisco County Lands—About 912 acres, of which 745 acres are in the Lake Merced Rancho and 34.7 acres in the Balboa Reservoir Tract, and 131 acres in city reservoirs, pump stations, Bryant Street Yard and pipe lines.

Walnut Orchard:

The 1938 crop was the largest yet harvested from this orchard, the total yield having been 258,934 pounds, on which the California Walnut Growers Association placed a value of $38,943.28. This crop represents an increase over the 1937 yield of 78,980 lbs., or 30.5 per cent. Of this total amount 235,153 pounds were classed as merchantable, the balance being culls and blows. As there was no carry-over from the previous year, the opening prices set by the Association were one cent higher than in 1937 for every grade. The quality of the walnuts was excellent, and the entire crop rated Diamond Brand, thus taking the highest price set by the Association for each grade.

On September 1, 1938, the Federal-State Crop Reporting Service estimated the season's crop at 732,240 bags and, based on these figures, the Control Board fixed the surplus percentage at 20% of the merchantable crop. However, the Northern California area harvested the largest crop in its history, and the above estimate was exceeded by 143,000 bags, or nearly 20 per cent. Although the Association has put on a vigorous campaign to dispose of as great a quantity as possible before the new season opens, there will doubtless be a considerable carry-over and this will be reflected in lower prices for the 1939 crop walnuts.

The orchard continues in excellent condition and, again, no "die back" occurred. Payment for culls was at the rate of 6.8 cents per pound and for blows 2 cents

per pound. The percentage of culls and blows in the crop was 9.184 compared to 7.55 in 1937 and 9.83 in 1936.

Messrs. C. H. Schween & Son of Pleasanton were the only bidders for the harvesting of the walnut crop and were awarded the contract at a price of 2.93 cents per pound, the same as the previous year.

CROP AND VALUE DURING CITY OWNERSHIP

Year	Total Yield Pounds	Gross Value	Net Cash Paid by Association	Association Charges in % of Gross	Packing House Charges per Pound
1930	110,361	$23,905.44	$20,024.55	12.06	.0138
1931	91,570	13,778.73	12,272.73	10.90	.0091
1932	206,795	28,994.25	20,391.18	29.80	.007
1933	153,080	23,635.21	17,905.45	24.40*	.0073
1934	136,672	18,039.52	13,236.00	26.60*	.0059
1935	209,095	27,359.11	22,719.87	17.80*	.0045
1936	187,605	27,865.13	24,947.57	11.73*	.0046
1937	179,954	23,808.71	21,102.05	11.36*	.0042
1938	258,934	38,943.28	29,366.68†	18.59*	.0090

*Includes percentages of crops delivered to Control Board and loss in sales of same.
†Estimated.

Care of the Orchard:

The usual winter spray of heavy oil emulsion was applied in the latter half of February, but no Bordeau Mixture spray was given in the spring of 1939 as it is not considered advisable to use this spray each year continuously. The trees were also given two applications of nico dust No. 3 for walnut aphis, which controls them effectively when applied at the proper time. Further thinning of interlocking branches was done during the winter months, and nineteen large trees were removed. The trees are growing so large and the branches becoming so interlocked that sunshine is prevented from reaching large areas, thereby affecting both quantity and quality of the crop thus shaded. As explained in detail in last year's report, it is considered advisable to continue thinning out trees gradually if the present high rating of the orchard is to be maintained. The work of removing the trees and clearing away the debris caused thereby was done by parties in exchange for the wood, thereby involving no extra cost to the Department. Henceforth, emphasis will have to be placed on the quality of the product if any profit is to be derived from walnut orchards. Quantity is being greatly increased through new acreages coming into bearing and surplus production will result in lower prices.

Fencing and Boundary Lines:

No new surveys of boundary lines were made in the last year. About two miles of new boundary fencing was done, and considerable repairing of old boundary line fences, the tenants doing the work and the Department supplying the materials.

Care of Properties:

Noxious weed control work was continued as in the past, particular attention being given to the eradication of star thistle, and the Agricultural Division has also co-operated with the Agricultural Commissions of Alameda and Santa Clara Counties in the work of exterminating ground squirrels.

ACCOUNTING AND AUDITING

The accounts of the San Francisco Water Department are maintained strictly in accordance with the requirements of the State Railroad Commission and Section 64 of the Charter, which provides for supervision and control by the Controller and the accounts of the Department have been so coordinated with the Controller's system that no encumbrance against the Budget estimates can be incurred without prior certification from the Controller that funds are available.

COMMENTS ON FINANCIAL STATEMENTS

GENERAL BALANCE SHEET

EXHIBIT A

ASSETS

The General Balance Sheet in this report has been set up in a simplified form so as to define more clearly the captions used in previous reports (Exhibit A). The following notes give additional detail to certain items on the Balance Sheet where such additional detail or explanation may seem desirable.

Properties—$50,447,602.06

This item is shown in detail on Schedule No. 1 under the caption "Fixed Capital in Service" and "Fixed Capital under Construction." This is a reduction over last year due to increase in Capital Assets of $390,114.88 and to having written off $812,612.37 for Current Year's Depreciation.

Cash—$2,882,658.36

The separate funds in which this amount is held is shown on Schedule No. 3.

Inter-Fund Accounts Receivable—$86,536.40

This amount is due from other funds within the Water Department's financial set-up and from other City departments.

Bonded Debt—$40,441,000.00

This amount is less than last year in amount $1,563,000.00 due to retirement of $1,000,000.00 Spring Valley Bonds 1928, and $563,000.00 Water Distribution Bonds 1933.

Accounts Payable—$464,329.62

This account is made up of the following items:

Outstanding Warrants	$72,934.96
Consumers' Deposits and Advances	91,706.78
General Creditors	55,921.70
Uncompleted Contracts and Commitments	243,530.67
Accrued Payroll	235.51

Inter-Fund Accounts—$356,933.64

Complete detail shown in Schedule No. 4.

Surplus—$11,997,060.20

Exhibits C and D show the analysis and composition of this account.

INCOME STATEMENT

EXHIBIT B

Gross water sales for the year were $7,042,987.90. Deduction of cash refunds in amount $1,745.72 and allowances and adjustments made to various consumers in amount $17,701.99 leaves net sales of $7,023,540.19, or an increase of $160,-329.45 over fiscal year 1937-38. The above figures account for all deliveries of water except for $29,800.48 delivered to Golden Gate International Exposition, which will be offset by the acquisition of pipe line built and paid for by the Exposition Company.

Operating Expenses show an increase of $200,279.67. This was caused by increased pumping cost due to lack of rainfall in amount $47,698.78. Extraordinary repairs to Calaveras Dam Spillway amounted to $51,973.71 and repairs to Newark Slough Submarine Pipe Line amounted to $22,823.58. Municipal Taxes—Comparison increased $37,529.00. This figure is determined by the amount of water delivered to non-paying municipal departments and to W. P. A. projects. Taxes to outside counties increased $17,357.60. Professional services in connection with Depreciation Survey, Annual Audit and Controller's Audit Staff cost $30,317.12. Other Operating Expenses show a net decrease of $7,420.12.

Following is statement summarizing the above:

	Increase	Decrease
Source of Supply	$14,585.99	
Pumping	47,698.78	
Purification		$8,434.33
Transmission and Distribution		2,906.72
Commercial Division	5,531.16	
Administrative and General	88,918.19	
Taxes—Actual	17,357.60	
Municipal Taxes—Comparison	37,529.00	
Net Increase		200,279.67
	$211,620.72	$211,620.72

EXHIBITS C AND D

Show surplus earned for the past twelve months and composition of surplus accumulated to date. Following is a statement of the disposition of surplus arising from operations, together with additions and deductions not strictly confined to operations:

Surplus:	To June, 30,	Year	To June 30,
Contributed—	1938	1938-1939	1939
To General Fund	$7,839,440.10	$990,826.00	$8,830,266.10
To Hetch Hetchy Water Supply	1,622,189.26	582,062.84	2,204,252.10
To Hetch Hetchy Power	4,170.00	.....	4,170.00
Advanced by General Fund	*84,298.00*	.....	*84,298.00*

EXHIBITS C AND D—Continued

Appropriated—	To June 30, 1938	Year 1938-1939	To June 30, 1939
For Bond Redemption—			
Spring Valley Bonds	8,000,000.00	1,000,000.00	9,000,000.00
1933 Water Distribution	842,594.33	563,000.00	1,405,594.33
Additions and Betterments	4,676,616.79	163,200.00	4,839,816.79
For Purchase of Land	22,858.50	.....	22,858.50
For Bond Interest—1933 Water Distribution Bond Fund	1,324.00	.....	1,324.00
For Other Purposes	29,460.38	.....	29,460.38
To Surplus	*173,220.66*	*203,575.36*	*376,796.02*
	$22,781,134.70	$3,095,513.48	$25,876,648.18
Add:			
Initial Surplus—Excess Earnings—Spring Valley Water Co.	4,152,652.24	.....	4,152,652.24
Valuation—Municipal Water Works	100,000.00	.....	100,000.00
Grants Earned on Federal Projects	2,245,000.00	113,987.60	2,358,987.60
Salvage Newark-San Lorenzo Pipe Line	323,723.34	.....	323,723.34
Salvage Corral Hollow Pipe Line	86,566.56	*199.82*	86,366.74
Land Sales	24,288.64	.....	24,288.64
Bond Premium	821,684.38	.....	821,684.38
Reservoir Sites and Aqueducts	20,091.00	.....	20,091.00
Airport Pipe Lines Transferred to Water Department	.....	22,390.00	22,390.00
Miscellaneous Additions	91,651.22	50,506.98	142,158.20
	$7,865,657.38	$186,684.76	$8,052,342.14
Deduct:			
Contribution to General Fund—Net	7,755,142.10	990,826.00	8,745,968.10
Deficit County Line Water Works	19,189.15	.....	19,189.15
Payment to Spring Valley for purpose of enabling City to take over properties in advance	745,274.31	.....	745,274.31
Lands Contributed to City	143,121.07	.....	143,121.07
Contribution to Hetch Hetchy Water Supply	1,622,189.26	582,062.84	2,204,252.10
Contribution to Hetch Hetchy Power Operative Fund	4,170.00	.....	4,170.00
Miscellaneous Deductions from Surplus	13,914.58	.....	13,914.58
Depreciation Due to Revaluation	8,481,814.33	.....	8,481,814.33
Depreciation—Current Year	819,822.90	754,403.58	1,574,226.48
	$19,604,637.70	$2,327,292.42	$21,931,930.12
Surplus—June 30	$11,042,154.38	$954,905.82	$11,997,060.20

Note: Net Income, as shown by the Income Statement—$2,341,109.90—has been increased for the purpose of this report by the sum of $754,403.58, which represents current year's depreciation that has not been funded.

Italic figures denote loss and deficiency.

SAN FRANCISCO WATER DEPARTMENT
EXHIBIT A
BALANCE SHEET—JUNE 30, 1939

ASSETS

PROPERTIES:

This is the original cost of construction of properties purchased from Spring Valley Water Company in 1930 and additions made since by the Water Department. Of the total $70,664,384.99 is for completed projects and $71,538.51 for work not yet completed $70,735,923.50
Estimated Loss in Service Value due to wear and tear 20,288,321.44

Remaining Service Value of the Properties now in use $50,447,602.06

CASH:

We have cash deposited with the Treasurer of the City and County of San Francisco totaling $2,882,658.36. Of this $1,942,431.58 is for retirement of bonds maturing July 1, 1939, and for payment of Bond Interest. $186,163.50 for Additions and Betterments, $320,414.02 for Replacement of worn out Plant and Equipment; $107,256.52 held in trust to guarantee the payment of water bills and other work done for the public; $296,392.74 for payment of operating expense and $30,000.00 for General Manager's Revolving Fund. 2,882,658.36

ACCOUNTS RECEIVABLE:

Water consumers' bills due the Department amount to $576,739.72; City of Palo Alto $215,419.37 and Other Creditors the sum of $18,643.87. Against this amount is set up a reserve of $81,000.00 to offset any uncollectible accounts, leaving a net figure of 729,802.96

INTER-FUND ACCOUNTS RECEIVABLE:

This amount is due the Water Department from other City Departments for work performed, but for which the Water Department has not been paid 86,536.40

DEFERRED CHARGES:

Of the total of $538,253.02, the sum of $268,315.71 is the amount expended for Materials and Supplies, in stock not yet used; $22,600.76 for cash or credit advanced for work in progress; and $247,336.55 for uncompleted Contracts and Other Commitments 538,253.02

$54,684,852.80

LIABILITIES

BONDED DEBT:

This is the remaining balance due on amount borrowed by the Water Department in Bonds, which are being repaid at the rate of $1,563,000.00 per year $40,441,000.00

BOND INTEREST PAYABLE:

Accrued, not due:
$720,000.00 represents six months' interest on one lot of bonds maturing July 1 and January 1 of each year and $28,130.00 is one month's interest on lot of bonds maturing June 1 and December 1 of each year 748,130.00

Matured Coupons Unpaid:
This is money due Bond Holders for interest coupons not yet presented for payment 113,797.50

ACCOUNTS PAYABLE:

This is money the Water Department owes on uncompleted contracts, for materials and for services contracted but unpaid. This also includes Advances and Deposits made by Consumers 464,329.62

INTER-FUND ACCOUNTS:

This is the unpaid portion of Annual Contributions to City and County General Fund—$290,826.00 and $66,107.64 due to other City departments 356,933.64

DEFERRED CREDITS:

Of this total of $563,601.84, $330,991.30 is the amount expended by the Golden Gate International Exposition for pipe lines and reservoirs to Treasure Island, which entitles it to delivery of water of an equal value; $215,419.37 is the unamortized principal and interest of Palo Alto Pipe Line which will be taken into income when due; $17,191.17 reserve for accident insurance 563,601.84

SURPLUS:

This is the equity of the People of San Francisco in the San Francisco Water Department's system. It represents the amount that the present value of the properties exceeds the outstanding obligations 11,997,060.20

$54,684,852.80

SAN FRANCISCO WATER DEPARTMENT
EXHIBIT B

INCOME ACCOUNT
FOR TWELVE MONTHS ENDED JUNE 30, 1939 AND 1938

	Twelve Months Ended June 30		Increase or *Decrease*	Cumulative from March 3, 1930 to June 30,1939
Sale of Water:	1939	1938		
San Francisco	$6,042,870.00	$5,986,952.95	$55,917.05	$56,190,504.43
Outside San Francisco	436,144.56	375,290.69	60,853.87	2,952,696.96
Municipal Departments—Actual	68,173.73	62,144.20	6,029.53	634,552.28
Municipal Departments—Comparison*	476,351.90	438,822.90	37,529.00	3,217,286.66
	$7,023,540.19	$6,863,210.74	$160,329.45	$62,995,040.33
Operating Expense:				
Source of Water Supply	$194,108.09	$179,522.10	$14,585.99	$2,739,432.11
Pumping	180,902.59	133,203.81	47,698.78	2,742,685.58
Purification	64,347.99	72,782.32	*8,434.33*	402,718.32
Transmission and Distribution	306,756.26	309,662.98	*2,906.72*	2,641,770.35
Commercial Division	349,097.99	343,566.83	5,531.16	3,115,666.70
Administrative and General	363,065.54	274,147.35	88,918.19	2,356,966.79
Taxes—Actual	257,488.21	240,130.61	17,357.60	2,413.137.70
Uncollectible Water Bills	6,000.00	6,000.00	.....	182,137.07
Provision for Depreciation	819,808.24	819,808.24	.....	10,620,965.86
Municipal Taxes—Comparison*	476,351.90	438,822.90	37,529.00	3,233,525.38
	$3,017,926.81	$2,817,647.14	$200,279.67	$30,449,005.86
Profit from Operations	$4,005,613.38	$4,045,563.60	*$39,950.22*	$32,546,034.47
Other Income:				
Rentals, including crop shares	$50,865.36	$52,733.37	*$1,868.01*	$494,036.71
Interest Earned	15,000.06	10,057.55	4,942.51	272,596.10
Sale of Walnuts	33,909.74	24,534.52	9,375.22	220,639.25
Miscellaneous	65,163.29	3,628.77	61,534.52	110,677.80
	$164,938.45	$90,954.21	$73,984.24	$1,097,949.86
Other Expense:				
Bond Interest	$1,786,943.34	$1,678,143.91	$108,799.43	$17,487,761.37
Agricultural Division	11,188.32	16,037.25	*4,848.93*	161,577.16
Walnut Orchard Expense	19,439.57	14,603.52	4,836.05	146,516.09
Miscellaneous	11,870.70	1,177.68	10,693.02	27,522.34
	$1,829,441.93	$1,709,962.36	$119,479.57	$17,823,376.96
Net Income	2,341,109.90	2,426,555.45	*85,445.55*	15,820,607.37
Comparison Charges for Federal Income and State Corporation Franchise Taxes amount to (Estimated)	405,583.16	392,744.51	12,838.65	

*Water Service to Municipal Departments Offset by Municipal Taxes.

Italic figures denote loss and deficiency.

EXHIBIT C

SURPLUS ACCOUNT

For Twelve Months Ended June 30, 1939

Surplus—June 30, 1938		$11,042,154.38
Add:		
Net Income for Twelve Months Ended June 30, 1939	2,341,109.90	
Grant Earned on Federal Public Works Projects—Docket 1132	113,987.60	
Airport Pipe Lines Transferred to Water Department	22,390.00	
Miscellaneous—Net	50,307.16	$13,569,949.04
Deduct:		
Contribution to General Fund 1938-1939	$990,826.00	
Contribution to Hetch Hetchy Water Supply 1938-1939	582,062.84	1,572,888.84
Surplus—June 30, 1939		$11,997,060.20

EXHIBIT D

COMPOSITION OF SURPLUS

June 30, 1939

ADDITIONS

Initial Surplus—March 3, 1930:		
Amortization Contribution (Spring Valley)	$4,152,652.24	
Valuation of Municipal Water Works	100,000.00	
Net Earnings—March 3, 1930 to June 30, 1939	15,084,920.03	
Grants Earned on Federal Public Works Projects—Docket 1510	2,245,000.00	
Grants Earned on Federal Public Works Projects—Docket 1132	113,987.60	
Salvage Value of Newark-San Lorenzo Pipe Line Transferred from Hetch Hetchy Water Supply	323,723.34	
Salvage Value Portion of Corral Hollow Pipe Line	86,366.74	
Airport Pipe Lines Transferred to Water Department	22,390.00	
Federal Government Expenditures for Labor Used in Building a Roof Over Crystal Springs Aqueduct	20,091.00	
Contribution from General Fund a/c P.W.A. Interest and Redemption	84,298.00	
Bond Premium	821,684.38	
Miscellaneous Additions (Net)	123,756.14	$23,178,869.47

DEDUCTIONS

Contribution to General Fund	$8,830,266.10	
Contribution to Hetch Hetchy Water Supply	2,204,252.10	
Contribution to Hetch Hetchy Power Division	4,170.00	
Lands Contributed:		
To City and County of San Francisco for Streets and Boulevards	137,811.07	
To Joint Highway Commission for Widening of Junipero Serra Blvd. in San Mateo County	5,310.00	$11,181,809.27
Surplus—June 30, 1939		$11,997,060.20

EXHIBIT E

STATEMENT OF OPERATING EXPENSES

For the Fiscal Years Ended June 30, 1938 and June 30, 1939

	Fiscal Year Ended June 30	
Source of Water Supply Expense:	1938	1939
Superintendence	$23,919.50	$20,919.83
Operating Labor	28,957.54	27,978.12
Operating Supplies and Expense	13,580.64	18,739.70
Repairs—Buildings and Fixtures	93,839.06	83,438.87
Repairs—Surface Facilities	18,893.82	42,447.84
Repairs—Miscellaneous Equipment	331.54	583.73
	$179,522.10	$194,108.09
Pumping Expense:		
Labor Pumping	$40,039.01	$45,048.96
Labor Miscellaneous	3,606.43	2,658.34
Fuel for Steam	10,689.39	11,096.62
Power Purchased	64,317.69	107,406.01
Lubricants	49.92	61.89
Miscellaneous Supplies and Expense	2,158.51	2,235.91
Repairs—Primary Pumping Equipment	3,973.81	5,273.39
Repairs—Boilers and Equipment	1,308.81	290.37
Repairs—Miscellaneous Equipment	1,085.60	839.98
Other Repairs and Gardening	5,974.64	5,991.12
	$133,203.81	$180,902.59
Purification Expense:		
Superintendence	$712.46	$553.14
Labor—General	27,700.91	26,745.92
Labor—Chlorine Treatment	.....	1,226.19
Supplies and Expense	40,838.74	31,089.44
Repairs—Plants and Structures	3,285.69	1,556.34
Repairs—Equipment	.....	2,826.16
Repairs and Maintenance—Roads and Trails	244.52	350.80
	$72,782.32	$64,347.99
Transmission and Distribution Expense:		
Superintendence	$33,037.83	$34,618.84
Patrolling Storage Facilities	12,453.92	12,063.31
Meters and Fittings Department	63,241.64	55,517.14
Street Department	15,371.52	13,511.11
Consumers' Premises Expense	12,964.92	13,495.97
Miscellaneous Supplies and Expense	7,475.05	5,578.19
Repairs—Transmission Mains and Canals	18,567.93	15,368.96
Repairs—Reservoirs, Tanks and Standpipes	4,602.53	11,946.01
Repairs—Distribution Mains and Canals	55,428.02	62,557.68
Repairs—Service	71,369.12	67,809.97
Repairs—Distribution Buildings	14,121.43	12,639.27
Repairs—Miscellaneous Distribution Equipment	1,029.07	1,649.81
	$309,662.98	$306,756.26

EXHIBIT E—Continued

	Fiscal Year Ended June 30 1938	1939
Commercial Expense:		
Collections	$113,001.22	$113,841.97
Reading Meters	33,476.94	34,466.32
Bookkeeping Department	99,242.59	106,249.31
General	33,097.28	32,944.42
Inspection and Service	50,465.42	47,193.84
Shipping	14,283.38	14,402.13
	$343,566.83	$349,097.99
Administrative and General Expenses:		
Salaries of General Officers	$18,399.84	$18,399.84
Salaries of General Office Clerks	40,628.25	41,231.95
Miscellaneous Supplies and Expense	5,387.76	10,039.18
Injuries and Damages	1,129.46	1,853.59
Relief Department Expense	39,860.19	37,883.23
Mason Street Building Expense	21,568.76	21,876.60
Telephone Service	15,294.47	15,563.54
Guest Cottages and Rest Rooms	2,245.17	1,521.98
General Engineering	33,689.62	32,556.72
Hydrography	2,104.77	2,809.79
Miscellaneous	4,270.30	766.70
Compensation Insurance	4,683.83	8,737.60
Other Insurance	5,282.72	5,952.15
Repairs—Mason Street Building	11,011.56	7,195.67
Repairs—Telephone Systems	8,774.90	5,893.49
Repairs—General Structures	.....	75,257.29
Professional Services—		
Advisory and Consulting Expense	7,293.75	30,317.12
Public Utilities Commission Expense	52,522.00	45,209.10
Property Taxes	240,130.61	257,488.21
	$514,277.96	$620,553.75

SCHEDULE No. 1

FIXED CAPITAL IN SERVICE

1010	Intangible Capital	$3,183,224.00	
1015	Landed Capital	11,994,136.50	
1020	Buildings, Structures and Grounds	1,092,356.92	
1025	Source of Water Supply	19,502,089.41	
1030	Pump Station Equipment	539,860.62	
1035	Purification	139,925.88	
1040	Transmission and Distribution—Inside San Francisco	32,264,962.71	
1041	Transmission and Distribution—Outside San Francisco	389,770.40	
1045	General Equipment	107,001.06	
1046	Automobiles	108,601.64	
1050	Undistributed Construction Expenditures	685,323.11	
1055	Interest During Construction	657,132.74	
			$70,664,384.99
	Less Reserve for Depreciation		20,288,321.44
			$50,376,063.55

FIXED CAPITAL UNDER CONSTRUCTION

1400	Extension Reserve Fund	71,538.51
	Net Capital Assets	$50,447,602.06

SCHEDULE No. 2

PUBLIC UTILITIES COMMISSION—SAN FRANCISCO WATER DEPARTMENT

RECLASSIFICATION OF EXPENSES—AS BETWEEN OPERATING EXPENSES AND MAINTENANCE AND REPAIRS
RECAPITULATION OF EXPENSES

JULY 1, 1930, TO JUNE 30, 1939 (9 YEARS)

OPERATING EXPENSES	Salary and Wages	Transportation	Materials	Compressor and Welder	Machine Shop	Contractual Service	Fuel and Power	Paving	Miscellaneous	Total ÷ 9 =	
Source of Supply Expenses...	$487,800.15	$35,664.70	$29,558.49	.....	.....	$95,694.15	.....	.....	$13,360.16	$662,077.65	$73,564.19
Pumping Expenses	864,155.09	7,281.27	29,381.86	.....	$50.30	5,903.27	$1,555,557.57	.....	70.74	2,462,400.10	273,600.01
Purification Expenses	159,497.63	12,642.52	146,183.88	$178.99	281.20	46,932.55	.....	.....	1,994.16	367,710.93	40,856.77
Transmission and Distribution	486,560.41	25,470.06	4,974.86	53.77	4,350.35	7,005.95	.....	.....	183.68	528,599.08	58,733.23
Collections	2,626,895.66	87,621.97	72,506.57	434.70	866.66	319,787.34	10.43	$203.01	20,831.90	3,129,158.24	347,684.25
General and Miscellaneous...	893,726.41	25,777.83	49,576.68	.....	555.56	172,631.38	.....	.....	463,088.65	1,605,356.51	178,372.94
Other Operating Expenses...	3,321.21	82.83	448.07	.....	37.67	1,938.00	.....	.....	2,766,729.77	2,772,557.55	308,061.95
Walnut Orchard and Agricultural Division	149,571.01	10,915.49	20,395.10	.....	.....	59,496.83	.....	.....	46,238.76	286,617.19	31,846.35
Sub Total	$5,671,527.57	$205,456.67	$353,025.51	$667.46	$6,141.74	$709,389.47	$1,555,568.00	$203.01	$3,312,497.82	$11,814,477.25	$1,312,719.69
MAINTENANCE AND REPAIRS											
Source of Supply Expenses...	$699,271.88	$37,425.59	$142,075.82	$810.60	$2,026.34	$22,441.38	.....	$189.48	$12,229.11	$916,470.20	$101,830.02
Pumping Expenses	92,914.43	9,572.23	27,546.41	119.50	16,829.20	14,975.11	.....	752.99	249.55	162,959.42	18,106.60
Purification Expenses	16,287.86	1,328.12	7,582.49	7.10	172.87	1,837.53	.....	.....	633.01	27,848.98	3,094.33
Transmission and Distribution	1,142,046.03	90,429.75	363,182.73	43,012.50	48,366.87	82,737.35	.....	143,915.14	*5,955.10*	1,907,735.27	211,970.59
Collections	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
General and Miscellaneous...	55,533.53	9,314.57	13,440.37	8.50	4,528.72	26,509.75	.....	.....	2,466.32	111,801.76	12,422.42
Other Operating Expenses....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Walnut Orchard and Agricultural Division	2,793.30	59.41	1,894.41	.....	.....	161.79	.....	.....	7,979.34	12,888.25	1,432.03
Sub Total	$2,008,847.03	$148,129.67	$555,722.23	$43,958.20	$71,924.00	$148,662.91	.....	$144,857.61	$17,602.23	$3,139,703.88	$348,855.99
Grand Total	$7,680,374.60	$353,586.34	$908,747.74	$44,625.66	$78,065.74	$858,052.38	$1,555,568.00	$145,060.62	$3,330,100.05	$14,954,181.13	$1,661,575.68

NOTE: This Schedule printed for Historical Purposes Only.

Italic figures denote loss and deficiency.

SCHEDULE No. 3
SAN FRANCISCO WATER DEPARTMENT
CASH AND OUTSTANDING WARRANTS
JUNE 30, 1939

	Treasurer's Balance	Oustanding Warrants
Water Revenue Fund	$296,392.74	$57,261.99
Special Deposit Trust Fund	107,256.52	15,549.74
Land Purchase Fund	43,902.11	
Extension Reserve Fund	142,261.39	
Reconstruction and Replacement Fund	320,414.02	
Bond Redemption (1928)	1,002,000.00	
Bond Interest (1928)	741,937.50	
Bond Interest (1933)	97,984.90	
Bond Fund (1933)	100,509.18	123.23
	$2,852,658.36	$72,934.96

SCHEDULE No. 4
SAN FRANCISCO WATER DEPARTMENT
SUMMARY OF INTERFUND ACCOUNTS
JUNE 30, 1939

ACCOUNTS RECEIVABLE

Public Service Enterprises:	
San Francisco Airport	$388.11
Municipal Railway	72.13
Hetch Hetchy Power Operation	157.57
Hetch Hetchy Water Supply	14,485.74
	$15,103.55
General City and County:	
Public Utilities Commission—Bureau of Engineering	$25,467.02
General Fund—Department of Public Works	335.50
General Fund—Fire Department	1,493.49
Public Utilities Commission—General Offices	609.47
General Fund—Street Building and Lighting Department	202.13
General Fund—Real Estate Department	55.00
	$28,162.61
Intra-Fund Accounts:	
Due Revenue Fund from Extension Fund	$40,095.85
Due Revenue Fund from Reconstruction and Replacement Fund	3,174.39
	$43,270.24

ACCOUNTS PAYABLE

General City and County:	
Retirement System	$8,024.75
General Fund—Street and Public Building Lighting Department	12,014.45
General Fund—Contributions	290,826.00
General Fund—P. U. C.—General Office	44.55
General Fund—P. U. C.—Bureau of Engineering	2,647.18
General Fund—Department of Public Works	106.47
	$313,663.40
Intra-Fund Accounts:	
See Contra Balance	$43,270.24

SCHEDULE No. 5

SAN FRANCISCO WATER DEPARTMENT

SCHEDULE OF BONDED INDEBTEDNESS

JUNE 30, 1939

Spring Valley 4½% Bonds

Maturity	Amount
July 1, 1939	$1,000,000.00
July 1, 1940	1,000,000.00
July 1, 1941	1,000,000.00
July 1, 1942	1,000,000.00
July 1, 1943	1,000,000.00
July 1, 1944	1,000,000.00
July 1, 1945	1,000,000.00
July 1, 1946	1,000,000.00
July 1, 1947	1,000,000.00
July 1, 1948	1,000,000.00
July 1, 1949	1,000,000.00
July 1, 1950	1,000,000.00
July 1, 1951	1,000,000.00
July 1, 1952	1,000,000.00
July 1, 1953	1,000,000.00
July 1, 1954	1,000,000.00
July 1, 1955	1,000,000.00
July 1, 1956	1,000,000.00
July 1, 1957	1,000,000.00
July 1, 1958	1,000,000.00
July 1, 1959	1,000,000.00
July 1, 1960	1,000,000.00
July 1, 1961	1,000,000.00
July 1, 1962	1,000,000.00
July 1, 1963	1,000,000.00
July 1, 1964	1,000,000.00
July 1, 1965	1,000,000.00
July 1, 1966	1,000,000.00
July 1, 1967	1,000,000.00
July 1, 1968	1,000,000.00
July 1, 1969	1,000,000.00
July 1, 1970	1,000,000.00
	$32,000,000.00

1933 Water Distribution 4% Bonds

Maturity	Amount
December 1, 1939	$563,000.00
December 1, 1940	563,000.00
December 1, 1941	563,000.00
December 1, 1942	563,000.00
December 1, 1943	563,000.00
December 1, 1944	563,000.00
December 1, 1945	563,000.00
December 1, 1946	563,000.00
December 1, 1947	563,000.00
December 1, 1948	563,000.00
December 1, 1949	563,000.00
December 1, 1950	563,000.00
December 1, 1951	563,000.00
December 1, 1952	563,000.00
December 1, 1953	557,000.00
	$8,439,000.00

Total Bonds Outstanding June 30, 1939

Spring Valley Bonds	$32,000,000.00
1933 Water Distribution Bonds	8,439,000.00
Total	$40,439,000.00

SCHEDULE No. 6
OPERATING EXPENSES

RESERVOIRS AND SOURCES

Inside of San Francisco	1935-36	1936-37	1937-38	1938-39
Lake Merced	$4,822.96	$5,608.04	$5,100.63	$4,509.98
Sunset Wells	194.29	60.81	.....	.....
Sunset Pump Supply Line	150.47	2,700.29	.....	.....
Central Pump Supply Line	329.20	19.55	.....	.....
City Pump Supply Line	118.29	185.99	.....	.....
	$5,615.21	$8,574.68	$5,100.63	$4,509.98
Outside of San Francisco				
Surface Source				
San Andres Reservoir	$8,461.74	$9,751.01	$17,946.48	$9,975.50
Crystal Springs Reservoir	27,127.23	28,790.17	37,814.45	36,404.45
Pilarcitos Reservoir	24,332.69	14,433.70	15,294.02	16,264.90
Calaveras Reservoir	12,705.72	15,185.69	15,367.70	10,380.96
Coast Range Tunnels	1,169.53	.....	.....	.....
Niles Reservoir	.....	1.70	.....	.....
	$73,796.91	$68,162.27	$86,422.65	$73,025.81
Ground Source				
Sunol Filter Beds	$9,610.52	$8,646.51	$8,291.48	$5,885.82
Pleasanton Wells	240.19	27.96	79.80	6.00
	$9,850.71	$8,674.47	$8,371.28	$5,891.82
Supply Lines				
Bay Division Pipe Lines	$8,278.78	$11,694.77	$14,006.52	$42,344.66
Stone Dam Aqueduct	9,634.27	5,692.41	7,111.09	4,020.01
Pilarcitos Aqueduct	673.86	946.00	379.20	68.90
San Andres Aqueduct	.....	57.16	.....	21.75
Crystal Springs Pump Supply Line	539.70	40.91	123.14	95.47
Belmont Pump Supply Line	16.29	1.84	.....	.....
Niles-Irvington Pipe Line	1,022.00	457.21	668.70	397.70
Niles Supply Lines	28.71	.....	.....	38.88
Pleasanton Pump Supply	33.90	5.03	.....	.....
Sunol Supply Line	22.09	.....	.....	.....
Upper Alameda Tunnel	770.81	66.15	415.73	89.05
Upper Alameda Creek Diversion Dam	1,003.52	1,213.16	2,385.04	656.01
Calaveras Pipe Line	703.52	89.65	283.50	277.57
Newark-San Lorenzo Pipe Line	.....	52.32	.....	.....
	$22,727.45	$20,316.61	$25,372.92	$48,010.00
Alameda System	$12,278.59	$10,820.39	$15,820.05	$20,393.93
Peninsula System	40,846.05	37,065.68	38,434.57	42,276.55
	$53,124.64	$47,886.07	$54,254.62	$62,670.48
Total Source of Supply	$165,114.92	$153,614.10	$179,522.10	$194,108.09

SCHEDULE No. 7
OPERATING EXPENSES

TRANSMISSION AND DISTRIBUTION

Inside of San Francisco	1935-36	1936-37	1937-38	1938-39
San Andres Transmission Line No. 1	$1,688.53	$946.16	$825.34	$130.41
San Andres Transmission Line No. 2	56.15	.....	.....	3.34
San Andres Transmission Line No. 3	555.99	1,249.31	32.17	12.82
Bay Division Transmission Line	.....	.....	.....	35.62
Crystal Springs Transmission Line	.....	19.38	.....	.....
Lake Honda Transmission Line	344.02	154.33	125.58	.....
Sunset Reservoir Transmission Line	171.74	.....	.....	28.86
City Reservoirs	11,554.93	12,923.78	22,937.97	28,619.22
Meter Expense	65,775.43	77,231.63	58,703.54	50,867.27
Street Department Expense	13,234.34	15,488.13	15,371.52	13,511.11
Main Repairs	40,617.19	56,239.04	55,428.02	62,522.06
Service Connection Repairs	60,334.37	63,003.71	71,325.33	67,809.97
Repairs to Buildings and Equipment	2,008.09	3,159.75	3,512.03	3,994.34
Miscellaneous Supplies and Expense	6,003.23	6,043.09	5,954.67	4,385.07
Consumers' Premises Expense*	.....	.....	.....	.....
Superintendence	31,322.11	30,908.88	33,037.83	34,618.84
Total in San Francisco	$233,666.12	$267,367.19	$267,254.00	$266,538.93
Outside of San Francisco				
Alameda Supply Line	$3,297.21	$923.44	$559.57	$1,360.43
Alameda Transmission Line	4,470.59	5,939.04	4,019.87	3,415.62
Stone Dam Aqueduct	.....	5.47	.....	.....
Crystal Springs Pump Aqueduct	6,265.08	6,300.69	5,673.53	3,360.51
New Crystal Springs Transmission Line	.....	.....	2,651.69	2,602.50
Crystal Springs Transmission Line	4,133.28	8,177.84	4,823.27	3,402.60
San Andres Transmission Line No. 1	1,423.17	1,769.84	2,186.01	3,112.16
San Andres Transmission Line No. 2	2,293.32	3,142.75	1,985.10	1,637.74
San Andres Transmission Line No. 3	863.30	1,082.11	547.24	806.72
Niles Reservoir	2,872.53	2,561.37	2,415.89	2,177.88
Palo Alto Pipe Line	.....	.....	.....	195.33
Pleasanton Transmission Line	23.26	9.68	.....	.....
Meter Expense	4,415.89	8,331.97	4,581.89	4,649.87
Total Outside of San Francisco	$30,057.63	$38,244.20	$29,444.06	$26,721.36
Total Transmission and Distribution Expense	$263,723.75	$305,611.39	$296,698.06	$293,260.29
*Consumers' Premises Expense Transferred to Commercial Expense	$13,037.11	$11,027.23	$12,964.92	$13,495.97

SCHEDULE No. 8
OPERATING EXPENSES

PUMP STATIONS

Inside of San Francisco

Steam Plants	1935-36	1936-37	1937-38	1938-39
Central	$40,859.57	$42,029.94	$41,255.56	$39,583.74
City	562.73	2,359.99	423.47	566.28
Black Point	264.38	210.22	70.64	686.93
Clarendon Heights	219.47	447.98	297.96	540.85
Ocean View	9.66	.....	.....	28.09
	$41,915.81	$45,048.13	$42,047.63	$41,405.89
Electric Pumps				
Bay Bridge Pump—San Francisco Exposition, 1939	.....	.....	$895.24	$7,675.73
Precita Valley	$37.61	$424.81	158.41	2,439.56
Forest Hill	4,369.92	4,617.88	3,799.56	3,987.91
Potrero Heights	148.87	204.92	134.48	222.32
Newcomb Avenue	526.59	561.55	719.59	609.77
Hillside	353.40	395.54	301.98	402.95
Fairview	544.16	164.94	84.78	175.26
Lincoln Park	318.47	388.81	96.21	181.58
Crocker Amazon	16.07	.....	.....	.....
Daly Hill	1.20	.....	.....	.....
Twin Peaks	329.00	310.23	541.33	319.85
Lake Honda Booster	2,712.83	2,318.91	4.67	.....
University Pump	569.19	26.74	.....	.....
Leland Avenue	297.27	.17	57.16	70.79
Sunset Booster	8,682.50	2,204.91	2,000.35	1,659.35
Sunset Wells	.....	3.03	.....	.....
Sunset Reservoir	.....	.....	25.39	.....
Sunset Source	9,688.31	1,840.33	1,363.73	1,146.93
Olmstead	384.57	379.84	482.49	453.99
Bernal Heights	218.55	124.52	386.56	94.41
St. Germain	44.40	280.92	110.13	155.07
	$29,242.91	$14,248.05	$11,162.06	$19,595.47
Total Inside of San Francisco	$71,158.72	$59,296.18	$53,209.69	$61,001.36
Outside of San Francisco				
Belmont Pump	$60,828.30	$3,300.23	$3,087.03	$3,125.78
Millbrae Pump	701.21	352.33	423.07	342.03
Crystal Springs Pump	71,375.70	82,661.36	60,981.73	85,793.49
Bay Division Pump	6,897.50	6,188.15	8,313.50	25,498.41
Pleasanton Pumps	9,008.02	5,753.78	3,860.71	2,877.18
Pleasanton Township Water District	4,005.49	3,568.62	3,050.34	2,044.53
San Lorenzo Pumps	479.96	236.25	277.74	219.81
Calaveras Aerator	.....	131.72	.....	.....
Total Outside of San Francisco	$153,296.18	$102,192.44	$79,994.12	$119,901.23
Total Pumping Expenses	$224,454.90	$161,488.62	$133,203.81	$180,902.59

SCHEDULE No. 9
OPERATING EXPENSES

PURIFICATION EXPENSE

Inside of San Francisco	1935-36	1936-37	1937-38	1938-39
College Hill	$677.73	$1,017.83	$1,264.85	$1,476.21
Lake Merced	.....	104.38	.....	.....
Lake Honda	6,494.90	6,730.35	6,934.39	6,721.93
Lombard Street	.....	.....	.....	6.18
Sunset	166.49	35.51	.....	215.07
University Mound	768.84	1,199.40	2,650.90	1,371.31
Division General	1,998.76	8,742.23	1,147.24	26.64
Total Inside of San Francisco	$10,106.72	$17,829.70	$11,997.38	$9,817.34
Outside of San Francisco				
Alameda Transmission Line	$25.00	.....	.....	.....
Bay Division	6.00	.....	.....	.....
Belmont Purification System	1,197.04	$314.97	$414.88	$115.01
Calaveras Reservoir	3,002.69	856.01	3,409.58	759.43
Calaveras Aerator	2,785.45	1,916.96	1,346.80	1,753.40
Calaveras Chlorinator	.....	5,741.51	4,962.18	7,036.77
Coast Range Division	300.73	.....	.....	.....
Crystal Springs	6,460.05	5,245.82	9,989.94	8,058.17
Crystal Springs Pipe Line	.75	.....	.....	.....
Hetch Hetchy Junction Purification	.....	3,972.23	4,880.56	290.18
Irvington Portal	11,233.29	6,828.28	2,194.73	2,755.39
Millbrae	51.31	.....	.....	.....
Millbrae Laboratory	.....	3,653.00	21,256.39	23,101.80
Pilarcitos Reservoir	83.19	176.29	191.79	33.90
Portable Chlorinator Unit	.....	4.95	.....	59.16
San Andres Reservoir	2,685.11	1,724.81	1,340.71	828.77
San Andres System No. 1	1,633.96	1,776.60	1,044.47	1,076.87
San Andres System No. 2	2,168.10	2,691.35	3,489.17	2,628.03
San Andres System No. 3	.....	.....	.....	6.75
San Andres Transmission Line No. 1	20.62	.....	.....	.....
San Mateo Screen Tank	18.11	271.16	179.38	26.62
Sunol	3,507.00	1,514.69	1,861.15	2,043.90
Tesla Portal	.....	.....	4,089.04	3,692.78
Division General—Peninsula	3,116.80	3,757.37	40.69	263.72
Division General—Alameda	791.58	516.00	93.48	.....
Total Outside of San Francisco	$39,086.78	$40,962.00	$60,784.94	$54,530.65
Total Purification Expense	$49,193.50	$58,791.70	$72,782.32	$64,347.99

SCHEDULE No. 10
OPERATING EXPENSES

Commercial Expense	1935-36	1936 37	1937-38	1938-39
Collections	$107,293.41	$110,112.43	$113,001.22	$113,841.97
Reading Meters	35,304.14	33,621.49	33,476.94	34,466.32
Bookkeeping Department	94,811.44	99,556.36	99,242.59	106,249.31
General and Miscellaneous	30,142.54	31,652.69	33,097.28	32,944.42
Inspection and Service	43,363.53	46,568.49	50,465.42	47,193.84
Shipping	14,182.12	14,227.02	14,283.38	14,402.13
Consumers' Premises Expense*	13,037.11	11,027.23	12,964.92	13,495.97
	$338,134.29	$346,765.71	$356,531.75	$362,593.96
General and Miscellaneous				
Salary of General Officers	$18,400.04	$18,399.99	$18,399.84	$18,399.84
Salary of General Office Clerks	37,782.14	36,512.70	40,628.25	41,231.95
Miscellaneous Supplies and Expense	5,827.28	10,426.91	8,908.86	10,039.18
Public Utilities Commission Expense	45,468.10	47,269.51	52,522.00	45,209.10
General Engineering	29,072.55	34,661.99	33,689.62	32,556.72
Hydrography	4,596.39	2,669.32	2,104.77	2,809.79
Telephone Services	15,106.10	15,469.80	15,294.47	15,563.54
Mason Street Building Operations	21,410.13	22,392.70	21,568.76	21,876.60
Mason Street Building Repairs	2,209.20	6,143.47	11,011.56	7,195.67
Rest Room and Guest Cottages	1,286.44	2,010.14	2,245.17	1,521.98
Advisory and Consulting	6,439.25	5,975.00	7,293.75	30,317.12
Repairs to General Structures	430.04	3,857.97	.....	.....
Repairs to Telephone Systems	5,733.74	5,355.97	8,774.90	5,893.49
Repairs to Submarine Line—Newark Slough	.....	.....	.....	23,283.58
Repairs to Calaveras Reservoir	.....	.....	.....	51,973.71
	$193,761.40	$211,145.47	$222,441.95	$307,872.27
Other Operating Expenses				
Insurance Compensation	$4,315.70	$4,485.16	$4,683.83	$8,737.60
Insurance, Other	6,456.16	5,659.01	5,282.72	5,952.15
Injuries and Damages	532.58	3,061.80	1,129.46	1,853.59
Pensions	42,620.31	38,843.82	39,860.19	37,883.23
Property Taxes	199,648.01	193,057.21	240,130.61	257,488.21
Miscellaneous	3,564.90	720.00	749.20	766.70
	$257,137.66	$245,827.00	$291,836.01	$312,681.48
	$450,899.06	$456,972.47	$514,277.96	$620,553.75

*Transferred from Transmission and Distribution Expense.

SCHEDULE No. 11

OPERATING EXPENSES—1938-39

City Distribution Division

Pumping Station Account

Steam Pumps	Labor	Use of Equipment	Material	Fuel or Power	Machine Shop	Miscellaneous	Total
Black Point	$111.27	$45.16	$0.96	.....	$529.39	$0.15	$686.93
Central	26,900.94	49.83	732.38	$11,096.62	596.78	55.08 / *152.11	39,583.74
City	444.51	.30	61.47	.....	.....	60.00	566.28
Ocean View	.....	.....	28.09	.....	.....	.....	28.09
Clarendon Heights	406.10	28.95	105.66	.....	.....	.14	540.85
	$27,862.82	$124.24	$928.56	$11,096.62	$1,126.17	$267.48	$41,405.89
Electric Pumps							
Fairview Pump	$108.47	$8.40	$6.47	$34.08	$17.84	.....	$175.26
Forest Hill Pump	621.42	53.70	85.34	3,171.96	55.49	.....	3,987.91
Hillside Pump	73.65	9.30	19.11	245.76	55.13	.....	402.95
Leland Avenue Pump	67.94	2.85	.....	.....	.....	.....	70.79
Lincoln Park Pump	109.83	12.60	3.38	15.52	40.25	.....	181.58
Newcomb Avenue Pump	100.68	10.35	22.80	449.16	26.78	.....	609.77
Potrero Heights Pump	90.72	10.50	2.30	76.04	42.76	.....	222.32
Precita Valley Pump	394.10	3.60	11.23	2,030.63	.....	.....	2,439.56
Twin Peaks Pump	119.78	10.20	25.55	150.00	14.32	.....	319.85
Sunset Booster Pump	289.50	31.05	.46	1,338.34	.....	.....	1,659.35
Sunset Source Pump	180.75	8.40	41.43	909.20	7.15	.....	1,146.93
Olmstead Pump	61.78	2.70	9.13	373.23	7.15	.....	453.99
Bernal Heights Pump	30.67	5.10	2.21	45.68	10.75	.....	94.41
St. Germain Street Pump.	104.54	11.40	6.17	18.64	14.32	.....	155.07
Bay Bridge Pump—San Francisco Exposition	2,528.25	39.15	195.70	4,716.18	193.95	*2.50	7,675.73
	$4,882.08	$219.30	$431.28	$13,574.42	$485.89	$2.50	$19,595.47
	$32,744.90	$343.54	$1,359.84	$24,671.04	$1,612.06	$269.98	$61,001.36

*Repairs to Equipment.

SCHEDULE No. 12

OPERATING EXPENSES—1938-39

City Distribution Division

SOURCE OF SUPPLY	Labor	Use of Equipment	Material	Machine Shop	Contractual Service	Paving	Miscellaneous	Total
Lake Merced	$4,137.44	$48.02	$102.38	$122.13	$56.77	.....	$53.24	$4,509.98
	$4,137.44	$48.02	$102.38	$122.13	$56.77	.....	$53.24	$4,509.98
PURIFICATION								
College Hill	$152.24	$6.45	$1,164.15	.....	$153.37	.....	.....	$1,476.21
Lake Honda	5,975.01	12.81	734.11	.....	.....	.....	.....	6,721.93
Lombard Street	.....	.....	6.18	.....	.....	.....	.....	6.18
Sunset	29.13	12.90	173.04	.....	.....	.....	.....	215.07
University Mound	44.44	7.65	1,319.22	.....	.....	.....	.....	1,371.31
General	.94	.15	2.08	$23.47	.....	.....	.....	26.64
	$6,201.76	$39.96	$3,398.78	$23.47	$153.37	.....	.....	$9,817.34
TRANSMISSION AND DISTRIBUTION								
San Andres Transmission Line No. 1	$90.35	$6.30	$31.98	$1.78	.....	.....	.....	$130.41
San Andres Transmission Line No. 2	.....	.....	3.34	.....	.....	.....	.....	3.34
San Andres Transmission Line No. 3	3.75	.60	8.47	.....	.....	.....	.....	12.82
Bay Division Transmission Line	11.94	.75	.....	6.93	$16.00	.....	.....	35.62
Sunset Reservoir Transmission Line	.....	8.78	.....	20.08	.....	.....	.....	28.86
City Reservoirs	22,134.10	763.83	3,265.12	2,030.59	425.58	.....	.....	28,619.22
Meter Expense	28,070.23	2,245.09	14,246.68	877.69	854.94	$4,572.64	.....	50,867.27
Street Department Expense	12,835.63	609.65	12.29	3.59	49.95	.....	.....	13,511.11
Repairs to Distribution Mains and Canals	40,965.60	3,288.28	8,569.64	5,240.81	970.48	3,487.25	.....	62,522.06
Service Connection Repairs	38,135.94	7,124.12	8,015.27	715.76	4,399.17	9,419.71	.....	67,809.97
Repairs to Buildings and Equipment	1,217.30	39.25	922.87	1,761.73	53.19	.....	.....	3,994.34
Miscellaneous Supplies and Expenses	1,802.22	44.15	925.49	304.03	1,269.84	14.82	$24.52	4,385.07
*Consumers' Premises Expense	.....	.....	.....	.....	.....	.....	.....	.....
Superintendence	32,328.06	1,232.20	658.39	19.16	363.17	.....	17.86	34,618.84
	$177,595.12	$15,363.00	$36,659.54	$10,982.15	$8,402.32	$17,494.42	$42.38	$266,538.93

*Consumers' Premises Expense Transferred to Commercial Expense.

OPERATING EXPENSES—1938-39

Outside of San Francisco

SOURCE OF SUPPLY SURFACE SOURCES	Labor	Use of Equipment	Material	Contractual Service		Miscellaneous	Total
San Andres Reservoir	$8,166.79	$263.52	$555.13	$990.06		.....	$9,975.50
Crystal Springs Reservoir	27,346.96	1,761.54	4,038.20	3,257.75		.....	36,404.45
Pilarcitos Reservoir	12,599.58	574.52	1,868.97	1,221.83		.....	16,264.90
Calaveras Reservoir	8,273.89	487.48	580.32	1,039.27		.....	10,380.96
	$56,387.22	$3,087.06	$7,042.62	$6,508.91		.....	$73,025.81
GROUND SOURCES							
Sunol Filter Beds	$3,990.73	$163.78	$106.82	$1,129.38	Sunol Stables	$495.11	$5,885.82
Pleasanton Wells	6.00	.....	.....	.....		.....	6.00
	$3,996.73	$163.78	$106.82	$1,129.38		$495.11	$5,891.82
SUPPLY LINES							
Bay Division Pipe Lines	$27,667.88	$2,513.93	$8,176.51	$795.31	Painting and Repairs	$3,191.03	$42,344.66
Stone Dam Aqueduct	3,682.92	79.74	206.38	50.97		.....	4,020.01
Pilarcitos Aqueduct	62.60	6.30	.....	.....		.....	68.90
Crystal Springs Supply Line	71.57	.....	23.90	.....		.....	95.47
Niles-Irvington Pipe Line	294.92	81.63	1.50	19.65		.....	397.70
Upper Alameda Tunnel	81.94	7.11	.....	.....		.....	89.05
Upper Alameda Creek Dam	583.02	72.99	.....	.....		.....	656.01
Calaveras Pipe Line	240.73	36.84	.....	.....		.....	277.57
San Andres Aqueduct	21.75	.....	.....	.....		.....	21.75
Niles Supply Line	38.88	.....	.....	.....		.....	38.88
	$32,746.21	$2,798.54	$8,408.29	$865.93		$3,191.03	$48,010.00
GENERAL EXPENSES							
Alameda System	$15,987.38	$864.49	$2,123.54	$1,418.52		.....	$20,393.93
Peninsula System	33,209.41	1,853.28	7,874.91	3,142.02	Board, Room and Laundry	$0.68 *3,803.75*	42,276.55
	$49,196.79	$2,717.77	$9,998.45	$4,560.54		*$3,803.07*	$62,670.48
Total Outside of San Francisco	$142,326.95	$8,767.15	$25,556.18	$13,064.76		*$116.93*	$189,598.11

Italic figures denote loss and deficiency.

SCHEDULE No. 14
OPERATING EXPENSES—1938-39
Outside of San Francisco

	Labor	Use of Equipment	Material	Fuel or Power	Machine Shop	Contractual Service	Miscellaneous	Total
PUMPING STATIONS								
Belmont Pump	$2,889.47	$71.94	$78.41	$82.70	.....	$3.26	.....	$3,125.78
Millbrae Pump	331.34	.....	10.69	.....	.....	.....	.....	342.03
Crystal Springs Pump	9,458.18	762.77	657.10	74,680.62	.....	234.82	.....	85,793.49
Bay Division Pump	6,755.34	495.75	129.61	17,992.42	.....	125.29	.....	25,498.41
Pleasanton Pumps	2,212.75	26.10	4.51	584.63	.....	49.19	.....	2,877.18
Pleasanton Township Water District	1,315.68	134.28	103.35	491.22	.....	.....	.....	2,044.53
San Lorenzo Pump	79.69	139.89	.23	.....	.....	.....	.....	219.81
Outside Pumping Expense	$23,042.45	$1,630.73	$983.90	$93,831.59	.....	$412.56	.....	$119,901.23
PURIFICATION								
Belmont Purification System	.....	.....	.....	.....	.....	$115.01	.....	$115.01
Calaveras Reservoir	$372.13	$47.20	$30.03	.....	.....	310.07	.....	759.43
Calaveras Aerator	907.52	91.68	.....	.....	.....	754.20	.....	1,753.40
Calaveras Chlorinator	899.08	338.67	5,793.96	.....	.....	5.06	.....	7,036.77
Crystal Springs	2,228.30	225.84	4,878.26	.....	$16.16	709.61	.....	8,058.17
Hetch Hetchy Junction Purification	175.00	82.68	16.66	.....	.....	15.84	.....	290.18
Irvington Portal	1,147.36	237.00	621.49	.....	.....	212.93	$536.61	2,755.39
Millbrae Laboratory	18,383.40	2,073.56	1,043.94	.....	96.40	1,504.50	.....	23,101.80
Pilarcitos Reservoir	12.75	1.53	19.62	.....	.....	.....	.....	33.90
Portable Chlorinating Unit	9.00	2.28	47.88	.....	.....	.....	.....	59.16
San Andres Reservoir	154.64	12.24	326.77	.....	.....	335.12	.....	828.77
San Andres System No. 1	114.67	23.94	745.62	.....	.....	192.64	.....	1,076.87
San Andres System No. 2	168.00	78.78	2,061.39	.....	.....	319.86	.....	2,628.03
San Andres System No. 3	6.75	.....	.....	.....	.....	.....	.....	6.75
San Mateo Screen Tank	16.56	6.93	3.13	.....	.....	.....	.....	26.62
Sunol	921.32	84.45	893.23	.....	10.78	134.12	.....	2,043.90
Tesla Portal	70.50	185.49	2,963.29	.....	.....	473.50	.....	3,692.78
Division General—Peninsula	48.41	.30	36.97	.....	178.04	.....	.....	263.72
Outside Purification Expense	$25,635.39	$3,492.57	$19,482.24	.....	$301.38	$5,082.46	$536.61	$54,530.65
TRANSMISSION AND DISTRIBUTION								
Alameda Supply Lines	$449.58	$524.11	$239.41	.....	.....	$147.33	.....	$1,360.43
Alameda Transmission Line	2,350.92	176.78	269.06	.....	.....	618.86	.....	3,415.62
Crystal Springs Pump Aqueduct	3,211.59	56.52	34.62	.....	.....	57.78	.....	3,360.51
New Crystal Springs Transmission Line	2,310.69	248.07	11.44	.....	.....	32.30	.....	2,602.50
San Andres Transmission Line No. 1	2,537.18	238.42	288.54	.....	.....	48.02	.....	3,112.16
San Andres Transmission Line No. 2	1,323.71	65.50	209.29	.....	.....	39.24	.....	1,637.74
San Andres Transmission Line No. 3	761.02	9.63	2.02	.....	.....	34.05	.....	806.72
Niles Reservoir	2,163.44	11.28	3.16	.....	.....	.....	.....	2,177.88
Palo Alto Pipe Line	131.03	31.53	32.17	.....	.....	.60	.....	195.33
Crystal Springs Transmission Line	2,459.84	419.44	419.51	.....	$2.70	101.11	.....	3,402.60
Meter Expense	2,629.74	717.33	1,243.95	.....	.....	58.85	.....	4,649.87
Outside Transmission Line Expense	$20,328.74	$2,498.61	$2,753.17	.....	$2.70	$1,138.14	.....	$26,721.36

SCHEDULE No. 15

OPERATING EXPENSES—1938-39

	Labor	Use of Equipment	Material	Machine Shop	Contractual Service	Miscellaneous	Total
COMMERCIAL EXPENSE							
Collections	$86,706.24	$1,558.29	$157.18	.....	$25,420.26	.....	$113,841.97
Reading Meters	32,556.10	404.40	82.41	.....	1,423.41	.....	34,466.32
Bookkeeping Department	100,585.05	3.00	2,606.82	.....	3,054.44	.....	106,249.31
General and Miscellaneous	24,169.73	532.86	1,293.16	$221.09	6,727.58	.....	32,944.42
Inspection and Service	38,156.39	7,198.69	276.02	51.95	1,510.79	.....	47,193.84
Shipping	9,869.70	269.46	22.23	5.54	4,235.20	.....	14,402.13
*Consumers' Premises Expense	13,183.59	.....	24.23	.....	288.15	.....	13,495.97
	$305,226.80	$9,966.70	$4,462.05	$278.58	$42,659.83	.....	$362,593.96
GENERAL AND MISCELLANEOUS							
Salary of General Officers	$18,399.84	.....	.....	.....	.....	.....	$18,399.84
Salary of General Office Clerks	41,231.95	.....	.....	.....	.....	.....	41,231.95
Miscellaneous Supplies and Expense	1,232.60	$6.60	1,689.26	$17.70	$4,531.86	$2,561.16	10,039.18
Public Utilities Commission Expense	790.10	.....	.....	.....	.....	44,419.00	45,209.10
General Engineering	24,089.56	1,869.63	1,832.06	.....	4,357.52	407.95	32,556.72
Hydrography	1,996.17	327.93	116.79	.....	166.90	202.00	2,809.79
Telephone Services	7,565.00	.....	.....	.....	7,998.54	.....	15,563.54
Mason Street Building Operations	15,649.19	.....	691.22	.....	5,536.19	.....	21,876.60
Mason Street Building Repairs	969.59	94.95	752.19	990.69	4,388.25	.....	7,195.67
Rest Room and Guest Cottages	914.79	5.04	74.32	.....	527.83	.....	1,521.98
Advisory and Consulting	.....	.....	.....	.....	.....	30,317.12	30,317.12
Repairs to Telephone Systems	4,319.97	848.25	661.00	.....	64.27	.....	5,893.49
Repairs to Submarine Line—Newark Slough	.....	.....	.....	.....	.....	23,283.58	23,283.58
Repairs to Calaveras Reservoir	.....	.....	.....	.....	.....	51,973.71	51,973.71
	$117,158.76	$3,152.40	$5,816.84	$1,008.39	$27,571.36	$153,164.52	$307,872.27
OTHER OPERATING EXPENSES							
Insurance Compensation	.....	.....	.....	.....	.....	$8,737.60	$8,737.60
Insurance, Other	.....	.....	.....	.....	.....	5,952.15	5,952.15
Injuries and Damages	$30.67	$0.45	$2.58	.....	.....	1,819.89	1,853.59
Pensions	.....	.....	.....	.....	.....	37,883.23	37,883.23
Property Taxes	.....	.....	.....	.....	.....	257,488.21	257,488.21
Miscellaneous	.....	.....	.....	.....	.....	766.70	766.70
	$30.67	$0.45	$2.58	.....	.....	$312,647.78	$312,681.48
	$117,189.43	$3,152.85	$5,819.42	$1,008.39	$27,571.36	$465,812.30	$620,553.75

*Transferred from Transmission and Distribution Expense.

SCHEDULE No. 16

ADDITIONS AND BETTERMENTS, YEAR 1938-39

	Labor	Overhead	Material	Use of Equipment	Paving	Contractual Service	Equipment	Miscellaneous	Total
INSIDE OF SAN FRANCISCO:									
Buildings, Structures and Grounds:									
Sidewalk Elevator, 425 Mason	$121.39	$21.90	$5.33	.....	.....	$1,657.62	.....	$17.28	$1,823.52
Transmission and Distribution:									
Main Extensions—City Pipe System	$19,349.57	$3,505.41	$66,082.80	$1,384.26	$6,323.06	$28,242.27	.....	$274.26	$125,161.63
Meters	.....	.....	36,978.53	.....	.....	.....	.....	.....	36,978.53
Meters Installed	4,991.35	742.58	15,975.61	482.48	854.69	135.97	.....	1.43	23,184.11
Services	20,859.55	3,162.04	13,900.74	4,130.13	6,973.19	2,518.65	.....	22.17	51,566.47
	$45,200.47	$7,410.03	$132,937.68	$5,996.87	$14,150.94	$30,896.89	.....	$297.86	$236,890.74
Total Inside of San Francisco	$45,321.86	$7,431.93	$132,943.01	$5,996.87	$14,150.94	$32,554.51	.....	$315.14	$238,714.26
OUTSIDE OF SAN FRANCISCO:									
Source of Water Supply:									
Pulgas Road, Fence, Walks and Water Temple Improvements—Pulgas Outfall	$6,155.25	$45.79	$3.59	$13.44	.....	$47,785.81	.....	$474.27	$54,478.15
Purification:									
Equipment for Sunol Chlorinating Station	.....	.....	.....	.....	.....	1,439.19	.....	.....	1,439.19
Equipment for San Andres Chlorinating Station	.....	.....	.....	.....	.....	2,140.13	.....	.....	2,140.13
Equipment for Crystal Springs Chlorinating Station	.....	.....	.....	.....	.....	419.21	.....	.....	419.21
Equipment for Millbrae Laboratory	.....	.....	.....	.....	.....	262.19	.....	.....	262.19
	.....	.....	.....	.....	.....	$4,260.72	.....	.....	$4,260.72
Transmission and Distribution:									
Meters Installed	.....	.....	$55.87	.....	.....	$820.45	.....	.....	$876.32
Stone Dam Aqueduct	$3,123.07	$468.48	.30	$253.29	.....	34,650.00	.....	.....	38,495.14
	$3,123.07	$468.48	$56.17	$253.29	.....	$35,470.45	.....	.....	$39,371.46
General Equipment:									
Office and Miscellaneous	.....	.....	.....	.....	.....	.....	$14,882.24	.....	$14,882.24
Automobiles	.....	.....	.....	.....	.....	.....	14,330.17	.....	14,330.17
	.....	.....	.....	.....	.....	.....	$29,212.41	.....	$29,212.41
Total Outside of San Francisco	$9,278.32	$514.27	$59.76	$266.73	.....	$87,516.98	$29,212.41	$474.27	$127,322.74
Grand Total	$54,600.18	$7,946.20	$133,002.77	$6,263.60	$14,150.94	$120,071.49	$29,212.41	$789.41	$366,037.00

APPENDIX
TO
REPORT OF SAN FRANCISCO WATER DEPARTMENT

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TABLE No. 1

RAINFALL BY MONTHS FOR SAN FRANCISCO

SEASONS 1935-36 TO 1938-39

From U. S. Weather Bureau

Month	Season 1935–36	Season 1936–37	Season 1937–38	Season 1938–39	Normal
July	0	0.03	T	0.01	0.02
August	0.25	0.02	T	0	0.01
September	0.08	T	T	0.15	0.45
October	1.44	0.69	0.90	1.33	1.12
November	1.24	0.01	2.46	0.88	2.35
December	3.25	2.94	3.73	1.48	3.95
January	5.77	5.26	2.65	3.07	4.54
February	10.06	4.88	8.49	1.94	3.85
March	1.01	7.05	5.73	2.62	3.14
April	1.09	0.86	1.52	0.42	1.61
May	0.49	0.06	T	0.63	0.80
June	0.28	0.59	0	T	0.18
Totals	24.96	22.39	25.48	12.53	22.02

"T" trace, amount too small to measure. 12.53 is 57% of normal.

TABLE No. 1-A

SEASONAL RAINFALL—WATERSHED STATIONS

SEASONS 1935-36 TO 1938-39

Water Department Records

Station	Season 1935–36	Season 1936–37	Season 1937–38	Season 1938–39	Normal
San Francisco	24.96	22.39	25.48	12.53	22.02
Pilarcitos	41.56	43.90	51.58	25.56	46.26
San Andres	27.48	34.85	40.64	18.66	38.86
Crystal Springs—Upper	26.53	31.90	37.00	18.41	33.26
Crystal Springs—Lower	25.75	30.76	35.81	18.50	28.33
Crystal Springs Cottage	23.58	28.79	34.66	16.01	26.57
Lake Merced	23.44	24.15	26.91	13.22	21.27
Pleasanton	20.44	22.09	25.89	12.61	21.93
Calaveras	21.94	23.18	26.92	15.86	25.21
Sunol	20.44	21.50	25.75	14.87	21.10
Niles	16.89	19.34	22.09	13.61	20.40
Hetch Hetchy	37.94	37.23	55.60	25.59	33.11
Lake Eleanor	48.08	46.08	64.61	30.79	40.21
Moccasin	31.84	31.68	41.22	19.58	25.56

TABLE No. 2

STORAGE IN MILLION GALLONS

(Exclusive of Hetch Hetchy Sources)

	1936		1937		1938		1939	
	Max. May 15	Min. Dec. 26	Max. Mar. 31	Min. Dec. 9	Max. Mar. 25	Min. Mar. 7-'39	Max. Apr. 12	As of June 30
Calaveras	22,317	16,942	31,463	16,766	31,569	9,493	10,650	9,315
Crystal Springs	14,938	15,474	18,789	17,741	20,170	16,941	17,215	17,165
San Andres	4,633	3,573	6,048	4,797	5,876	4,719	5,230	5,724
Pilarcitos	605	277	858	258	929	346	442	396
Lake Merced	1,612	1,540	1,882	1,835	2,233	2,343	2,398	2,289
City Reservoirs	104	116	120	125	133	151	151	229
Total	44,209	37,922	59,160	41,522	60,910	33,993	36,086	35,118

TABLE No. 3

WATER DRAWN FROM HETCH HETCHY AND AUXILIARY SOURCES

(Million Gallons)

	1935-36	1936-37	1937-38	1938-39
Hetch Hetchy Water Supply	13,158	10,287	1,181	7,510
Pleasanton Wells	393*	417*	352*	203*
Sunset Wells	294	9	...	...
Total	13,845	10,713	1,533	7,713

*For local consumption only.

TABLE No. 4

SEASONAL DRAFT ON SURFACE STORAGE AND AUXILIARY SOURCES

(Million Gallons)

1	2	3	4	5	6	7	8	9
				Seasonal Draft on Storage and Auxiliary Sources				
Year	Maximum Storage	Minimum Storage	Storage Increase During Season	Storage Decrease During Season	From Pleasanton Wells	From Sunset Wells	From E.B.M.U.D. and H.H.W.S.	Total Seasonal Draft
1918	20,388	12,382	....	8,006	3,603	....	....	11,609
1919	22,388	13,160	10,006	9,228	2,000	....	....	11,228
1920	16,578	9,986	3,418	6,592	2,871	....	....	9,463
1921	19,788	11,502	9,802	8,286	317	....	....	8,603
1922	20,091	12,770	8,589	7,321	397	....	....	7,718
1923	22,649	11,721	9,879	10,928	515	....	....	11,443
1924	11,721	4,266	0	7,455	4,726	....	....	12,181
1925	13,585	4,959	9,319	8,626	2,666	....	....	11,292
1926	17,859	9,618	12,900	8,241	2,536	....	....	10,777
1927	30,581	20,000	20,963	10,581	2,104	....	....	12,685
1928	30,687	18,657	10,687	12,030	762	....	....	12,792
1929	20,265	8,906	1,608	11,359	4,054	....	....	15,413
1930	16,475	6,441	7,569	10,034	4,073	341	....	14,448
1931	6,779	4,291	338	2,488	3,812	2,054	7,731	16,085
1932	30,916	18,650	26,625	12,266	277	2,083	158	14,784
1933	23,389	12,158	4,739	11,231	257	1,991	0	13,479
1934	16,998	7,246	4,840	9,752	2,655	1,914	1,390	15,711
1935	31,298	18,883	24,052	12,415	412	1,209	5,928	*19,964
1936	44,209	37,922	25,326	6,287	409	9	10,776	*17,481
1937	59,160	41,522	21,238	17,638	386	....	1,605	*19,629
1938	60,910	33,993	19,388	26,917	222	....	285	*27,424
1939	36,086	....	2,093	....	....	....	....	....
Average	26,036	15,191	11,114	10,366	1,859	457	1,327	14,009

NOTE: Column 9 does not include water drawn for consumption directly from run-off. It represents depletion in storage during dry season if all the water for consumption during dry season were drawn from storage.

*Include the following quantities:

1935 4,702 m.g. Advance Release to Alameda Co. Water District.
1936 1,585 m.g. " " " " " " "
1937 3,395 m.g. " " " " " " "
1938 1,992 m.g. " " " " " " "
1938 10,200 m.g. Released down Alameda Creek, etc.

TABLE No. 5

CONSUMPTION IN MILLION GALLONS PER DAY

Year	San Francisco	Suburban	Total System	Max. Day	Min. Day	Max. Month	Min. Month
1930-31	49.2	3.1	52.3	66.7	41.3	57.8	47.0
1931-32	49.3	2.8	52.1	65.6	39.6	59.4	47.5
1932-33	46.4	2.7	49.1	60.4	39.9	54.3	44.6
1933-34	47.3	2.6	49.9	64.3	39.1	53.7	45.1
1934-35	48.1	2.4	50.5	65.4	41.3	58.1	46.2
1935-36	52.3	2.5	54.8	68.0	43.0	62.1	50.3
1936-37	55.1	3.4	58.5	70.7	45.7	63.8	51.8
1937-38	53.3	5.0	58.3	72.4	46.7	65.4	53.4
1938-39	56.9	6.4	63.3	86.1	48.5	79.0	55.7

TABLE No. 5-A

AVERAGE DAILY CONSUMPTION SINCE 1865

Year	M.G.D.	Year	M.G.D.	Year	M.G.D.	Year	M.G.D.
1865	2.4	1885	17.0	1905	34.9	1925	42.6
1870	6.0	1890	20.4	1910	35.6	1928	50.1
1875	11.7	1895	19.9	1915	42.6	1929	52.1
1880	12.7	1900	25.5	1920	36.2	1930	52.1

TABLE No. 6

DELIVERY THROUGH PIPE LINES IN MILLION GALLONS DAILY

	1935-36	1936-37	1937-38	1938-39
Water Transported into San Francisco:				
San Andres 54″ Pipe	22.6	26.9	28.8	29.4
College Hill 30″ Supply Lines	6.6	7.3	6.0	6.5
Baden-Merced Branch 30″ Pipe	4.1	2.4	0.6	3.0
Crystal Springs 44″ Pipe	18.2	15.9	0.0	0.0
Crystal Springs 60″ Pipe	...	2.6	17.9	18.0
From Sunset Wells	0.8	0.0	0.0	0.0
Total San Francisco Consumption	52.3	55.1	53.3	56.9
Water Transported from Crystal Springs to San Andres Reservoir:				
Crystal Springs Pump Aqueduct	22.1	29.5	20.4	35.6
Water Transported Across S. F. Bay:				
Bay Division 60″ and 72″ Pipes	37.5	50.1	31.2	62.3
Alameda 36″ Pipe	14.1	0.0	0.0	0.9
	51.6	50.1	31.2	63.2

TABLE No. 7

SOURCE OF WATER TRANSPORTED ACROSS SAN FRANCISCO BAY

YEARLY AVERAGE MILLION GALLONS DAILY

	1935-36	1936-37	1937-38	1938-39
Pleasanton Wells	0.8	0.0	0.0	0.0
Sunol Filters and Calaveras Res.	14.8	22.6	31.2	43.6
Hetch Hetchy Water Supply	36.0	27.5	0.0	19.6
	51.6	50.1	31.2	63.2

TABLE No. 8

COMPARATIVE PUMPING COSTS

BELMONT PUMPS	1935-36	1936-37	1937-38	1938-39
Water pumped, gallons	4,918,838,384	Not Operating	Not Operating	Not Operating
Gas burned, cu. ft.	112,494,559			
Fuel Cost	$18,396.87	$0.00	$0.00	$0.00
Labor Cost	41,182.08	3,008.57	2,594.47	2,889.47
Miscellaneous	1,249.35	291.66	492.56	236.31
	$60,828.30	$3,300.23	$3,087.03	$3,125.78
Cost per mil. gal.	12.37			
Cost per mil. gal. ft.	.0482			
CRYSTAL SPRINGS BOOSTER PUMP				
Water pumped, gallons	589,340,000	48,850,000	Not Operating	Not Operating
Electric Power, KWH	271,840	22,525		
Power Cost	$1,636.12	$153.92		
Labor Cost	600.00	49.30		
Miscellaneous	76.00	10.00		
	$2,312.12	$213.22		
Cost per mil. gal.	3.92	4.36		
Cost per mil. gal. ft.	.1937	.172		
SAN ANDRES PUMP				
Water pumped, gallons	8,081,690,000	10,749,520,000	7,458,450,000	12,996,240,000
Electric Power, KWH	8,323,160	10,454,275	6,560,000	12,006,400
Power Cost	$60,095.79	$73,045.02	$50,287.10	$74,680.62
Labor Cost	7,957.79	7,695.32	8,894.36	9,458.18
Miscellaneous	1,010.00	1,707.80	1,785.27	1,654.69
	$69,063.58	$82,448.14	$60,966.73	$85,793.49
Cost per mil. gal.	8.546	7.67	8.17	6.60
Cost per mil. gal. ft.	.0350	.0341	.0376	.0301
PULGAS PUMPS				
Water pumped, gallons				1,766,305,000
Electric Power, KWH				1,993,600
Power Cost	$1,925.27	$2,425.31	$3,117.90	$17,992.42
Labor Cost	4,225.54	3,176.17	4,722.07	6,755.34
Miscellaneous	746.69	579.35	473.53	750.65
	$6,897.50	$6,180.83	$8,313.50	$25,498.41
Cost per mil. gal.				14.44
Cost per mil. gal. ft.				.0627
CENTRAL PUMPS				
Water pumped, gallons	2,453,210,000	2,652,123,000	2,489,930,000	2,605,931,000
Gas burned, cu. ft.	79,295,000	66,077,000	53,370,000	73,098,000
Oil burned, gals.		18,647	141	
Fuel Cost	$12,671.76	$11,298.12	$10,593.36	$11,096.62
Labor Cost	27,306.03	28,499.03	28,619.35	26,900.94
Miscellaneous	881.78	2,621.20	1,973.56	1,586.18
	$40,859.57	$42,418.35	$41,186.27	$39,583.74
Cost per mil. gal.	16.66	15.99	16.54	15.19

Note: Belmont Pumps were shut down June 6, 1936. Pulgas Pumps only operated intermittently since October, 1934.

TABLE No. 9

AVERAGE DAILY CONSUMPTION BY DISTRICTS

(Gallons)

District	1938–39	1937–38	Increase or Decrease	% Increase or Decrease
Forest Hill	330,417	289,360	+41,057	+14.2
Stanford Heights	7,145,342	6,822,290	+323,052	+4.7
Lake Honda	24,062,374	21,337,152	+2,725,222	+12.8
College Hill	6,770,243	6,461,353	+308,890	+4.8
University Mound	18,043,079	17,768,912	+274,167	+1.5
Merced Manor	585,421	607,819	—22,398	—36.8
Total City	56,936,876	53,286,886	+3,649,990	+6.9
Suburban	6,332,893	4,989,235	+1,343,658	+26.9
Total Entire System	63,269,769	58,276,121	+4,993,648	+8.6

TABLE No. 9-A

PEAK CONSUMPTION BY DISTRICTS

District	1938–39	1937–38	1936–37
Forest Hill	611,313	496,384	556,725
Stanford Heights	9,384,000	8,842,000	9,089,000
Lake Honda	30,677,793	26,386,346	25,514,000
College Hill	9,035,000	8,458,714	8,893,000
University Mound	22,313,000	21,968,000	22,434,000
Merced Manor	1,750,000	1,459,000	1,479,000
San Francisco (combined)	70,045,000	65,710,000	64,807,000
Suburban	16,349,000	11,295,000	1,912,000
System Peak	86,135,000	72,359,000	70,679,000

TABLE No. 10

UNIT COST FOR METER MAINTENANCE

Year	Meters In Use	Total Cost	Cost Per Meter	Labor Cost Per Meter	Material Cost Per Meter
1933–34	114,914	$44,457.18	$0.39	$0.207	$0.137
1934–35	115,881	44,031.65	0.38	0.210	0.119
1935–36	114,482	65,775.43	0.58	0.296	0.203
1936–37	116,606	77,231.63	0.66	0.318	0.214
1937–38	117,424	58,703.54	0.50	0.278	0.172
1938–39	120,027	50,867.27	0.42	0.237	0.119

TABLE No. 11

UNIT COST OF METER INSTALLATION

	1938–39	1937–38	1936–37	1935–36
Meters set	3,651	2,597	3,257	2,173
Per cent ¾" and smaller	94.3	90.8	92.0	89.3
Labor	$1.14	$0.98	$1.08	$1.17
Supervision	0.17	0.09	0.28	0.41
Meter	8.65	9.58	9.92	11.71
Material	2.01	1.54	0.45	0.57
Equipment	0.11	0.07	0.02	0.12
Paving	0.19	0.21	0.20	0.17
Miscellaneous	0.02	0.08	0.20	0.04
Total	$12.29	$12.55	$12.15	$14.19

TABLE No. 12

UNIT COST OF SERVICE CONNECTION

	1938–39	1937–38	1936–37	1935–36	1934–35
Services Installed	2,995	1,916	2,082	1,548	470
Per Cent ¾"	97.1	94.8	93.4	92.4	85.5
Labor	$6.96	$6.60	$5.99	$7.10	$5.75
Supervision	1.06	0.79	0.43	0.58	1.91
Material	4.64	3.12	3.97	4.64	5.60
Equipment	1.38	1.15	0.93	1.49	0.47
Miscellaneous	0.85	0.52	1.68	0.96	1.25
Paving	2.33	1.67	2.00	1.66	3.02
Total	$17.22	$13.85	$15.00	$16.43	$18.00

TABLE No. 13

PIPE RECORD FOR FISCAL YEAR

July 1, 1938, to June 30, 1939

	Wrought Iron and Steel Sizes	Total Pipe in Ground July 1, 1938	Pipe Laid 1938-39	Total	Taken out or Abandoned 1938-39	Total Pipe in Ground June 30, 1939
	½″	1,644′	0′	1,644′	0′	1,644′
	¾″	12,551	35	12,586	0	12,586
	1″	42,587	150	42,737	0	42,737
	1¼″	3,928	0	3,928	0	3,928
	1½″	172,461	0	172,461	77	172,384
	2″	305,370	1,655	307,025	990	306,035
Galv.	3″	28,024	0	28,024	0	28,024
G. & B.	4″	8,809	0	8,809	750	8,059
Galv.	5″	804	0	804	0	804
Dip.	6″	3,832	0	3,832	0	3,832
Galv.	6″	171	0	171	0	171
Galv.	8″	17	0	17	0	17
Galv.	12″	6,555	0	6,555	0	6,555
	13″	456	0	456	0	456
	16″	25,587	0	25,587	0	25,587
	20″	65,728	0	65,728	0	65,728
	22″	24,377	0	24,377	0	24,377
	23½″	9,087	0	9,087	0	9,087
	24″	26,443	0	26,443	0	26,443
	30″	26,953	0	26,953	0	26,953
	33″	2,409	0	2,409	0	2,409
	36″	40,800	0	40,800	0	40,800
	37½″	8,896	0	8,896	0	8,896
	44″	14,818	0	14,818	0	14,818
	48″	11,504	0	11,504	0	11,504
	60″	9,981	0	9,981	0	9,981
Totals		853,792′	1,840′	855,632′	1,817′	853,815′

TABLE No. 13—PIPE RECORD FOR FISCAL YEAR—Continued
July 1, 1938, to June 30, 1939

Wrought Iron and Steel Sizes	Total Pipe in Ground July 1, 1938	Pipe Laid 1938-39	Total	Taken out or Abandoned 1938-39	Total Pipe in Ground June 30, 1939
Cast Iron Pipe					
2″	14,593′	2,153′	16,746′	0′	16,746′
3″	62,330	0	62,330	0	62,330
4″	481,621	1,500	483,121	640	482,481
6″	1,484,264	27,312	1,511,576	371	1,511,205
8″	1,317,667	17,739	1,335,406	0	1,335,406
10″	6,873	0	6,873	0	6,873
12″	389,829	6,365	396,194	20	396,174
16″	241,282	0	241,282	0	241,282
20″	22,642	0	22,642	0	22,642
22″	19,058	0	19,058	0	19,058
24″	52,171	0	52,171	0	52,171
30″	6,138	0	6,138	0	6,138
Total	4,098,468′	55,069′	4,153,537′	1,031′	4,152,506′
Grand Total	4,952,260′	56,909′	5,009,169′	2,848′	5,006,321′
Total Miles	937.93	10.78	948.71	0.54	948.17

TABLE No. 13-A
VALVE RECORD
In the City Distribution Division, June 30, 1939

Gates		Service Gates		Stop Cocks		Blow-offs		Air Valves		Check Valves	
2″	64	3″	347	⅝″	18	¾″	9	¾″	30	1½″	7
3″	240	4″	288	¾″	135	1″	44	1″	9	2″	10
4″	1,030	6″	172	1″	192	1½″	288	1½″	283	3″	1
6″	3,063	8″	102	1½″	962	2″	782	2″	210	4″	7
8″	2,838	12″	3	2″	2,664	3″	187	3″	5	6″	19
10″	6					4″	186	4″	1	8″	19
12″	742					6″	142	6″	13	12″	3
16″	370					8″	89	8″	200	16″	3
20″	23					12″	22				
22″	20					16″	2				
24″	57										
30″	21										
36″	16										
37½″	2										
42″	1										
48″	1										

TABLE No. 14
CURRENT CONTRACT DATA—1938-39

Contract No.	Title of Contract	Division	Contractor	Date of Award	Date of Completion	% Complete 6/30/38	Bid Price	Contract Payments to 6/30/38	Date of Final Payment
156	Construction of Palo Alto Pipe Line	Peninsula	Macco-Robertson, Ltd.	10/25/37	8/13/38	100%	$213,620.00	$217,046.96	9/30/38
166	Construction of Temple and other Improvements at Pulgas Outfall	Peninsula	W. O. Tyson	2/14/38	7/28/38	100%	37,318.40	38,439.77	7/31/38
172	Laying 6″ C.I. Mains in 19th Ave., Lincoln Way to Lawton St.	City Dist.	Martin Murphy	7/25/38	11/11/38	100%	7,468.60	7,228.33	11/28/38
174	Removing, Furnishing and Installing Condenser Tubes at Central Pumps	City Dist.	California Steel Products Co.	4/11/38	7/26/38	100%	4,210.00	4,210.00	7/26/38
176	Laying 6″ C.I. Mains in Girard, Mansell and Arlington Streets	City Dist.	E. J. Treacy	6/13/38	8/11/38	100%	2,575.60	2,541.70	8/18/38
177	Laying 4″, 6″ and 8″ C.I. Mains in Sec. 1 of Lakeside Subdivision No. 2	City Dist.	W. J. Tobin	6/13/38	6/18/38	100%	4,034.20	3,839.60	6/23/38
178	Repaving Street and Sidewalk Openings for the year 1938-39	City Dist.	Pacific Pavements Co., Ltd.	6/13/38	6/30/39	100%	37,185.00	31,310.95	7/15/39
180	Laying 6″ and 8″ C.I. Mains in Merced Manor, Alemany Blvd., and 25th Ave.	City Dist.	E. J. Treacy	7/ 5/38	7/26/38	100%	3,974.44	3,752.83	7/31/38
181	Laying 6″ C.I. Mains in Wabash Terrace	City Dist.	E. J. Treacy	7/25/38	8/24/38	100%	1,868.75	1,770.60	8/28/38
182	Preliminary Excavation and Pipe Relocation for Calaveras Stilling Basin	Alameda	Sibley Grading & Teaming Co.	8/ 9/38	12/30/38	100%	20,035.00	18,565.68	1/28/39
183	Laying 4″ and 8″ C.I. Mains in Mt. Vernon and Shawnee Streets	City Dist.	Martin Murphy	8/ 9/38	10/12/38	100%	1,235.90	1,129.98	10/18/38
184	Laying 6″ and 8″ C.I. Mains in Athens, Foote and Cayuga Streets	City Dist.	E. J. Treacy	8/29/38	4/18/39	100%	3,257.81	2,885.75	4/28/39
185	Laying 6″ and 8″ C.I. Mains in Noriega St. and 29th Avenue	City Dist.	San Francisco Water Dept.	9/12/38	11/ 5/38	100%	2,052.30	1,705.91	11/ 5/38
186	Acoustical Treatment, Painting and Fixtures on 4th and 7th Floors, 425 Mason Street	General	Western Asbestos Co.	9/12/38	11/10/38	100%	1,983.00	1,983.00	11/28/38
187	Laying 6″, 8″ and 12″ C. I. Mains in 37th, 38th and 39th Avenues and in Lawton and Quintara Sts.	City Dist.	E. J. Treacy	10/10/38	1/18/39	100%	8,907.52	8,909.63	2/10/39

188	Laying 8" C.I. Main in Easement at 3rd St. and Islais Creek	City Dist.	E. J. Treacy	1/23/39	3/15/39	100%	4,911.30	4,898.37	3/21/39
189	Gathering and Delivering Walnut Crop at Sunol Orchard	Agricultural	Chas. H.Schween & Son	10/ 3/38	11/15/38	100%	5,865.00	7,593.24	11/15/38
190	Laying 8" C.I. Main in Innes Ave. and Coleman St..	City Dist.	E. J. Treacy	10/10/38	11/15/38	100%	3,168.00	3,199.02	12/ 6/38
191	Laying 6" and 8" C.I. Mains in 24th Ave. and Bayshore Blvd.	City Dist.	E. J. Treacy	10/24/38	12/ 7/38	100%	2,354.75	2,363.15	12/14/38
192	Reconstruction of Calaveras Spillway	Alameda	Eaton & Smith	3/13/39	.....	12%	220,472.50	23,041.53	.....
193	Laying 6" and 8" C.I. Mains in Lakeside Subdivision No. 2	City Dist.	Lowrie Paving Co., Inc.	10/24/38	12/16/38	100%	8,737.06	8,605.01	12/27/38
194	Laying 6" and 8" C.I. Mains in Masonic Ave. and Ewing Terrace	City Dist.	E. J. Treacy	11/28/38	1/13/39	100%	3,769.95	3,741.26	1/20/39
195	Laying 6" and 8" C.I. Mains in Lawton St. and 40th Avenue	City Dist.	San Francisco Water Dept.	12/19/38	3/28/39	100%	2,384.00	2,073.95	3/31/39
197	Laying 6" C.I. Mains in Melrose Avenue and Los Palomas Drive	City Dist.	E. J. Treacy	12/27/38	.....	15%	1,361.90	None	.....
198	Laying 6" and 8" C.I. Mains in 28th and 31st Aves.	City Dist.	San Francisco Water Dept.	2/14/39	5/19/39	100%	3,058.55	2,748.01	5/31/39
199	Laying 6" C.I. Main in La Salle Avenue, 3rd Ave. to Mansell	City Dist.	San Francisco Water Dept.	2/14/39	3/ 7/39	100%	1,474.70	1,107.11	3/31/39
200	Relocating University Mound 44" Pipe Line at Bowdoin Street	City Dist.	Eaton and Smith	2/27/39	4/24/39	100%	4,052.50	4,145.90	5/ 4/39
201	Laying 6" and 8" C.I. Mains in 33rd, 34th and 35th Avenues and Moraga Street	City Dist.	Chas. L. Harney	1/23/39	3/24/39	100%	7,255.30	7,176.98	4/ 1/39
204	Laying 2" and 8" C.I. Mains in 6th, 36th Avenue and College Terrace	City Dist.	San Francisco Water Dept.	2/27/39	4/14/39	100%	2,195.65	2,256.13	4/31/39
205	Laying 6" and 8" C.I. Mains in Rivera Street and 27th Avenue	City Dist.	Lowrie Paving Co.	4/10/39	5/16/39	100%	1,216.65	1,202.34	5/24/39
206	Laying 4" C.I. Main in Linda Street, 18th to 19th..	City Dist.	San Francisco Water Dept.	5/ 8/39	5/18/39	100%	1,023.05	1,060.37	5/31/39
207	Laying 6" C.I. Main in University and Sweeny Sts..	City Dist.	E. J. Treacy	5/ 8/39	6/ 7/39	100%	1,858.00	1,855.42	6/15/39
210	Repaving Street and Sidewalk Openings for the year 1939-40	City Dist.	Pacific Pavements Co., Ltd.	6/26/39	.....	None	33,490.00	None	.....

TABLE No. 15

Gross Metered Service Revenues, Service Charges and Special Service Revenues Also Record of Refunds, Allowances, Adjustments, Collections and Balances Due Comparisons—Fiscal Years 1935-36 to 1938-39.

	1935-36	1936-37	1937-38	1938-39
Metered Service—Standard Rates				
Residential	$2,693,267	$2,809,315	$2,885,138	$3,007,368
Commercial (Incl. Contrs.)	2,571,334	2,659,928	2,618,099	2,604,152
Industrial	409,045	437,155	406,740	367,876
Municipal	234,361	259,090	276,771	317,824
Docks	64,613	61,329	56,668	47,367
Suburban	274,373	325,094	344,225	415,250
Total	$6,246,993	$6,551,911	$6,587,641	$6,759,837
For Water Delivered	$5,136,455	$5,414,263	$5,427,016	$5,575,836
Ratio	82.2%	82.7%	82.4%	82.5%
Service Charges	1,110,538	1,137,648	1,160,625	1,184,001
Ratio	17.8%	17.3%	17.6%	17.5%
Special Service				
Fire Hydrants (S. F.)	$217,563	$221,859	$223,972	$226,480
Street Work and Sewers	248	306	291	339
Contractors—Flat Rates	775	2,360	1,825	1,785
Shipping—Hose Truck	38,146	33,466	32,087	32,988
Suburban—Special Contracts.	39,193	39,746	31,496	21,559
Total	$295,925	$297,737	$289,671	$283,151
Total Gross Charges	$6,542,918	$6,849,648*	$6,877,312†	$7,042,988‡
Deductions				
Cash Refunds	$929	$1,061	$1,117	$1,746
Allowances and Adjustments.	20,428	21,673	18,217	17,702
Profit and Loss	8,054	4,855	3,418	4,476
Total	$29,411	$27,589	$22,752	$23,924
Net Sales	$6,513,507	$6,822,059*	$6,854,560†	$7,019,064‡
Collections	6,153,467	6,398,425	6,436,241	6,484,877
Balances due on Cons. Accts.	467,959	473,418	455,798	517,016
Golden Gate Intnl. Expos.	.....	.....	$5,233§	$29,800

*Affected by rate reduction of Jan. 1, 1937.

†Affected by rate reductions of Jan. 1, 1937 and Jan. 1, 1938.

‡Affected by rate reduction of Jan. 1, 1938.

§Credited to Acct. 5702 Surplus (Reserve for Revaluation of Plant). The amour credited to "Reserve for Revaluation of Plant" together with the remainin balance in Acct. 5601—G. G. I. E.—will be used as a basis of revaluation c Plant Acct.

TABLE No. 15-A

CHARGES OF NON-PAYING MUNICIPAL ACCOUNTS

For the Fiscal Years of 1937-1938 and 1938-1939

	1937-1938	1938-1939	Increase	Decrease
Hydrant	$223,972.30	$226,480.10	$2,507.80	.....
Parks	85,328.87	112,605.09	27,276.22	.....
Municipal Railway	1,644.98	1,849.46	204.48	.....
Municipal Railway Track Repair Work	1.65	43.68	42.03	.....
Board of Public Works (Street Cleaning)	9,006.67	8,831.10	.....	$175.57
Troughs	194.86	176.98	.....	17.88
Auxiliary Fire System	15,767.92	16,605.61	837.69	.....
Dept. of Public Works (Public Bldgs.)	36,934.35	38,120.42	1,186.07	.....
Dept. of Public Works (Street Work and Sewers)	291.05	339.14	48.09	.....
Fire Department	6,984.60	6,909.13	.....	75.47
Dept. of Public Health	28,915.61	28,443.44	.....	472.17
Dept. of Public Health	1,068.03	1,054.27	.....	13.76
Relief Home	16,288.90	14,597.80	.....	1,691.10
Exposition Auditorium	802.35	1,033.90	231.55	.....
Opera House and War Memorial Building	1,389.87	1,525.50	135.63	.....
Opera House and War Memorial Building	494.52	618.02	123.50	.....
Opera House and War Memorial Building (Sprinkler)	44.03	36.00	.....	8.03
Purchaser of Supplies—City and County of San Francisco	14.90	16.98	2.08	.....
Dept. of Electricity—General Alarm Station	195.19	338.00	142.81	.....
Museums—				
Memorial Museum—Station M, Golden Gate Park — Fulton and 10th Avenue	50.54	75.08	24.54	.....
Curator—Palace of Legion of Honor—Lincoln Park — Clement and 39th Avenue	287.66	294.68	7.02	.....
Municipal Airport	811.90	1,439.99	628.09	.....
Fire Boats	496.41	473.14	.....	23.27
Hassler Health Farm	2,822.34	3,111.12	288.78	.....
W.P.A. Projects	5,013.40	11,163.56	6,150.16	.....
Public Welfare Dept.	.....	169.71	169.71	.....
Totals	$438,822.90	$476,351.90	$40,006.25	$2,477.25

$37,529.00 Net Increase

TABLE No. 15-B

CHARGES OF PAYING MUNICIPAL ACCOUNTS

For the Fiscal Years of 1937-1938 and 1938-1939

	1937-1938	1938-1939	Increase	Decrease
Libraries	$1,787.87	$2,140.56	$352.69	.....
Playgrounds	21,233.69	24,286.13	3,052.44	.....
Schools	39,189.61	41,864.54	2,674.93	.....
Totals	$62,211.17	$68,291.23	$6,080.06	.....

TABLE No. 16

METERS INSTALLED—SAN FRANCISCO DISTRICT

Revenue and Non-Revenue Producing as of June 30, 1939

Revenue Producing: Class of Consumers	5/8"	3/4"	1"	1½"	2"	3"	4"	6"	8"	12"	Total
Commercial	20,817	960	1,674	1,828	2,271	12	27	148	105	1	27,843
Residential	88,561	132	607	232	10						89,542
Dock and Shipping	143	7	22	13	83	10				2	280
Total	109,521	1,099	2,303	2,073	2,364	22	27	148	105	3	117,665
Non-Revenue Producing:											
Commercial	1,035	25	34	23	27		1	3			1,148
Residential	1,203		2	2							1,207
Dock and Shipping					7						7
Total	2,238	25	36	25	34		1	3			2,362
Check Totals	111,759	1,124	2,339	2,098	2,398	22	28	151	105	3	120,027

NOTE: The above meter account includes 618 batteries composed of 1,587 meters.

The above meter account also includes 46 consolidations composed of 115 meters.

The above meter account also includes 270 automatic sprinklers for fire purposes.

Total number of active accounts as of June 30, 1939, 116,627.

Previous Records

	1934-35	1935-36	1936-37	1937-38	1938-39
Total Meters	115,881	114,482	116,606	117,424	120,027
Increase	967	1,399*	2,124	818	2,603
Idle Meters	4,987	3,823	3,246	2,301	2,362

*Decrease.

TABLE No. 16-A

METERS INSTALLED—SUBURBAN DISTRICT

Revenue and Non-Revenue Producing as of June 30, 1939

Revenue Producing:

Class of Consumers	5/8"	3/4"	1"	1½"	2"	3"	4"	6"	8"	10"	Total
Under Regular Rates	426	19	32	19	165		10	9		2	682
Under Special Contracts	2	1		3	31		1				38
Total	428	20	32	22	196		11	9		2	720

Non-Producing:

Under Regular Rates	17	1	3	2	5						28
Under Special Contracts	7	1	3	4	18		1		1		35
Total	24	2	6	6	23		1		1		63
Totals	452	22	38	28	219		12	9	1	2	783

NOTE: The above account includes 221 meters in excess of number of accounts.

Number of active Suburban accounts June 30, 1939, 562.

Comparisons:

Record June 30, 1935	5/8"	3/4"	1"	1½"	2"	3"	4"	6"	8"	Total
Revenue Producing	364	24	34	24	151		5	2		604
Non-Producing	41	4	4	3	24		1			77
Total	405	28	38	27	175		6	2		681
Record June 30, 1936										
Revenue Producing	354	25	29	35	151	3	5	2		604
Non-Producing	31	4	4	2	26		1			68
Total	385	29	33	37	177	3	6	2		672
Record June 30, 1937										
Revenue Producing	389	24	35	32	165	3	4	2		654
Non-Producing	37	6	5	3	24		2		1	78
Total	426	30	40	35	189	3	6	2	1	732
Record June 30, 1938										
Revenue Producing	403	19	35	26	192	3	6	2		686
Non-Producing	37	5	2	4	15		2		1	66
Total	440	24	37	30	207	3	8	2	1	752

STREET MAIN TAPS AND SERVICE CONNECTIONS RECORD

TABLE No. 17

San Francisco District—June 30, 1939

Taps on Street Mains

	Wharf	¾″	1″	1½″	2″	3″	4″	6″	8″	12″	Totals
June 30, 1938.....	244	128,318	3,160	2,803	2,011	585	259	210	105	3	137,698
Add 1938-39.....	...	3,045	67	30	19	11	3	8	6	..	3,189
June 30, 1939.....	244	131,363	3,227	2,833	2,030	596	262	218	111	3	140,887

SERVICE CONNECTIONS

Services connected to street mains, as above.....	140,887
ADD—"Distributors," being one or more add'l meters con. to serv. pipes	9,942
Total connections of record.....	150,829
DEDUCT—Disconnected services	31,835
Net live services, all metered, 117,665—active; tempy. S/O 2,362, less 1,033 extra meters in batteries.....	118,994

Previous Records	1935-36	1936-37	1937-38
Active	110,659	113,360	115,123
Shut-Off	3,823	3,246	2,301
Totals	114,482	116,606	117,424
Less extra battery meters.....	1,008	961	977
Net	113,474	115,645	116,447

SERVICE INSTALLATIONS

Fiscal Year 1938-39

District	Taps	Distributors	Total
Richmond District	219	4	223
Sunset District	1,856	35	1,891
North Market and Western Addition.....	202	91	293
South Market and Twin Peaks.....	912	76	988
Totals	3,189	206	3,395
Previous Years			
1935-36	1,599	216	1,815
1936-37	2,098	223	2,321
1937-38	2,086	194	2,280

AUTOMATIC SPRINKLER INSTALLATIONS

October 26, 1932 to June 30, 1939

Size	1932-36	1936-37	1937-38	1938-39	Total
4-inch	1	0	2	0	3
6-inch	29	6	8	6	49
8-inch	27	9	11	6	53
12-inch	0	2	0	0	2
Totals	57	17	21	12	107

TABLE No. 18

OFFICIAL METER TESTS

During Fiscal Year Ending June 30, 1939
Percentage of Variation

	0%	1%	2%	3%	4%	5%	6%	8%	10%	15%	Number Tested Total	Tested Ratio
Fast	..	33	8	7	..	..	..	..	..	..	48	42.0%
Slow	..	20	4	3	1	..	..	..	..	..	28	25.0%
O. K.	38	..	..	..	..	..	..	..	..	..	38	33.0%
Total	38	53	12	10	1	..	..	..	..	..	114	100.0%
Previous Totals:												
Year 1935...	48	56	39	19	11	6	..	..	..	1	180	
Year 1936...	78	74	37	17	3	..	1	1	..	..	211	
Year 1937...	45	85	28	12	3	..	..	..	..	..	173	
Year 1938...	31	44	18	6	3	2	..	..	1	..	105	

Refunds account of over-registration—$25.68 (1939)
Increased account of under-registration—$67.28 (1939)

TABLE No. 19

RECORD OF BAD WATER COMPLAINTS

Comparisons of complaints received during the Fiscal Years 1935-36 to 1938-39, with reference to the reservoirs supplying.

	1935-36	1936-37	1937-38	1938-39
University Mound	248	182	240	116
College Hill	155	67	58	97
Lake Honda Reservoir	241	290	55*	87*
Lake Honda Ocean View	..	..	66*	76*
Lake Honda Lombard	..	..	27*	47*
Forest Hill	7	7	2	6
Stanford Heights	65	62	89	45
Presidio Heights	24	32	54	23
Merced Manor	..	4†	..	..
Totals	740	644	591	497

*Not segregated in prior records—all shown as Lake Honda.
†Includes only two months' period.

TABLE No. 20

RECORD OF NO WATER COMPLAINTS

Fiscal Years 1935-36 to 1938-39

(a) Those for which the Department was responsible:

	1935-36	1936-37	1937-38	1938-39
Choked Pipes	149	80	115	71
Service or main broken	39	37	36	37
Service or main too small	88	76	100	77
Elevation too high	32	15	13	28
S/O at main or meter	92	65	57	36
District tempy. S/D	87	22	14	5
Service or meter frozen	..	10	..	..
Totals	487	305	335	254
Percentage	48.5%	32.3%	42.7%	33.3%

(b) Those for which the Consumers were responsible:

House Valves closed	189	145	116	115
House Pipe too small	35	86	54	116
False Reports	198	181	166	176
Valves out of order	64	76	83	68
House Pipe broken	17	24	14	18
Building too high	3	0	0	2
Overloaded Service	12	17	17	13
House Pipe frozen	..	111	..	..
Totals	518	640	450	508
Percentage	51.5%	67.7%	57.3%	66.7%
Total "No Water"	1,005	945	785	762

TABLE No. 21

RECORD OF BUILDING PERMITS

Issued by the Department of Public Works During the Fiscal Years 1935-36 to 1938-39

	1935–36	1936–37	1937–38	1938–39
Class "A"	$551,822	$665,000	$40,000	$257,500
Class "B"	377,000	1,974,375	649,600	741,900
Class "C"	666,988	1,339,529	1,247,450	1,405,136
Frames	6,593,777	9,523,668	8,087,721	11,954,395
Alterations	3,092,458	4,143,332	3,667,943	3,750,524
Public Buildings	1,535,608	206,110	1,289,639	3,563,446
U. S. Government	999,166	1,312,447	.....	3,099,367
State Buildings	222,448	289,316	287,115	79,857
Golden Gate Bridge	126,100	.....	.....	.....
1939 Exposition	356,970	3,290,323	1,644,575	2,490,041
Bay Bridge	.....	14,633	2,283,377	.....
Totals	$14,522,337	$22,758,733	$19,197,420	$27,342,166

TABLE No. 22

NUMBER OF BUILDING PERMITS

Issued by the Department of Public Works During the Fiscal Years 1935-36 to 1938-39

	1935–36	1936–37	1937–38	1938–39
Class "A"	6	9	1	4
Class "B"	9	20	12	14
Class "C"	115	111	89	99
Frames	1,449	2,068	1,760	2,730
Alterations	4,882	5,898	5,391	5,735
Public Buildings	32	13	15	24
U. S. Government	7	6	...	8
State Buildings	5	5	4	2
Golden Gate Bridge	1	...	...	...
1939 Exposition	1	8	19	46
Bay Bridge	...	1	1	...
Totals	6,507	8,139	7,292	8,662

TABLE No. 23

Number of Contractors' Jobs Handled by the Builders' and Contractors' Supply Section

Totals during the Fiscal years 1935-36	1,717
1936-37	2,764
1937-38	2,476
1938-39	3,286

TABLE No. 24

RETURNS AND EXPENSES—AGRICULTURAL DIVISION

	1934–35	1935–36	1936–37	1937–38	1938–39
	RETURNS				
Cash Rentals Accrued	$55,192.44	$48,039.83	$39,760.69	$44,138.19	$45,064.32
Taxes Paid by Tenants	1,695.70	974.30	1,817.15	2,514.22	1,089.26
Share Crop Rentals	7,312.58	8,639.97	9,426.48	6,080.96	4,711.78
Walnut Sales	18,078.86	26,862.23	27,385.40	24,534.52	33,909.74
Totals	$82,279.58	$84,516.33	$78,389.72	$77,267.89	$84,775.10
	EXPENSES				
General:					
Salaries	$10,918.53	$10,390.80	$9,849.96	$10,975.77	$5,946.27
Office and Miscellaneous	222.17	227.25	172.14	448.86	767.03
Automobile Service and Depreciation	1,071.54	865.65	1,007.00	1,117.07	725.11
Share Crops:					
Storage Insurance, Handling, Freight	1,360.61	1,257.33	735.75	234.64	102.24
Care of Properties:					
Repairs—Buildings, fences, etc., weed and rodent control, remove stumps and trees	3,255.72	2,367.40	3,461.05	3,260.91	5,532.61
Boundary Surveys and Fencing:					
Surveys	406.27	3,006.67	.....	.....	.....
New Construction	1,116.79	.....	.....	.....	.....
Walnut Orchard:					
Care of Orchard	5,668.57	6,901.20	5,443.37	5,674.78	3,399.88
Crop Harvest	4,254.66	6,054.09	5,676.18	5,469.13	9,051.16
Packing House and Selling Expense	4,807.16	4,639.24	4,332.49	3,459.61	5,010.89
Totals	$33,082.02	$35,709.63	$30,677.94	$30,640.77	$30,535.19

ORGANIZATION AND PERSONNEL

N. A. ECKART.....General Manager and Chief Engineer

WATER PRODUCTION AND ENGINEERING

T. W. Espy.....Engineer of Water Production
I. E. Flaa.....Hydraulic Engineer
C. A. Lauenstein.....Assistant Hydraulic Engineer
J. H. Rankin.....Superintendent Alameda Division
W. R. Anderson.....Assistant Superintendent Alameda Division
G. J. Davis.....Superintendent Peninsula Division
S. M. Millard.....Assistant Superintendent Peninsula Division
G. E. Fanning.....Photographer

CITY DISTRIBUTION

G. W. Pracy.....Superintendent City Distribution
O. G. Goldman.....Assistant Superintendent City Distribution
J. J. Miley.....General Foreman City Pipe System
Joseph Kappeler.....General Foreman Services and Meters
Thomas Mayhew.....Storekeeper
R. W. Tullis.....Foreman Machine Shop

WATER PURIFICATION

G .E. Arnold.....Chief Water Purification Engineer
F. E. De Martini.....Assistant Water Purification Engineer
K. Fraschina.....Assistant Water Purification Engineer

WATER SALES

V. E. Perry.....Manager Water Sales Division
A. M. Cooley.....Assistant Manager Water Sales Division
W. D. Ryder.....Supervisor Consumers' Accounts
J. E. Huntoon.....Assistant Supervisor Consumers' Accounts
A. W. Till.....Supervisor of Collections
F. S. Hobro.....Assistant Supervisor of Collections
R. P. Scott.....Chief Clerk
J. C. Joost.....Supervisor Docks and Shipping
C. C. Young.....Chief Meter Inspector
Joseph Conway.....Consumers' Complaint Investigator

LANDS AND AGRICULTURE

Fred Roeding (resigned July 31, 1938).....Superintendent Agricultural Division
F. Peters.....Assistant Superintendent Agricultural Division

ACCOUNTS

J. J. Sharon.....Auditor
E. J. White.....Assistant Auditor
H. J. Pachtner.....Senior Bookkeeper
H. M. Kinsey.....Cashier

RETIRED—1938-39

During the past fiscal year the following employees were retired from service, and recognition is given on account of their faithful service in the organization:

Henry A. Hyne—Chief Engineer, Stationary Steam Engines...44 Years' Service
James J. Dillon—Serviceman.....37 Years' Service

HETCH HETCHY AT THE FAIR

HETCH HETCHY WATER SUPPLY
BUREAU OF ENGINEERING

L. T. McAFEE
Utilities Engineer

L. T. McAFEE
Chief Engineer and Manager Hetch Hetchy Water Supply

The enlarged O'Shaughnessy Dam was appropriately dedicated on October 16, 1938, with a ceremony described in the report for the fiscal year 1937-1938. Since commencement of storage of water behind the enlarged dam the usefulness of this work has been demonstrated in several ways. In the spring of 1938, Hetch Hetchy reservoir retained a great quantity of flood water which would otherwise have very much increased the damage from floods in the San Joaquin Valley. The high run-off for the 1937-1938 season, which filled the reservoir and kept it full well into the summer of 1938, provided for continuous operation of the Moccasin power plant for that year, and about 140,000 acre-feet of water were carried over into the next season. Due to the low precipitation and snow-fall in the season 1938-1939 this carry-over storage is of great benefit not only to the City but also to all downstream water users on the Tuolumne and San Joaquin Rivers.

The quantity of water supplied to San Francisco's local system from Hetch Hetchy sources was 7,823,800,000 gallons, bringing the total since the Hetch Hetchy aqueduct was placed in operation (October 28, 1934) to 45,184,600,000 gallons. With relatively light precipitation in the bay area during the season of 1938-39 and attendant heavy consumption of water from the City's system, it became advisable to increase the rate of delivery of Hetch Hetchy water in December, 1938, and during the late spring the Hetch Hetchy aqueduct was operated almost continuously at or near its full capacity of about 70,000,000 gallons daily.

A levee was constructed around the San Joaquin valve house, electric service was brought to this house, and a pump and necessary piping was installed for handling accumulations of water in the house.

Construction for the Water Department, under the supervision of the Hetch Hetchy Water Supply Department, of the Palo Alto pipe line, from the Redwood City valve house of the Hetch Hetchy aqueduct to the city of Palo Alto, was completed during the year. This was the last construction work on large pipe lines to be handled in this manner, and at the close of the work the staff of engineers

and inspectors connected with it transferred to other work of the Commission or were laid off.

At San Francisco Airport, the program for major improvements and extensions to be financed from the bond issue of $2,850,000 was well advanced. The extension, widening and paving of runways on the existing field was started and completed during the year, as was the construction of the levee to enclose the 325 acres of field extension. At the close of the fiscal year the contract work of filling with earth and rock within this latter area was in progress. Considerable work was done on field lighting and field drainage, and on other improvements, as part of the program for the improved landplane and seaplane ports. All of the major construction work is done as a part of a Federal Works Progress (W.P.A.) project under which the Federal government is contributing certain labor and is aiding in financing the project.

Organization and Personnel:

The Hetch Hetchy Water Supply department is in charge of L. T. McAfee, Utilities Engineer, assisted by L. W. Stocker, Chief Civil Engineer. Electrical engineering work is done in consultation with, or under direction of, Paul J. Ost, Manager and Chief Engineer, Electric Power Bureau. C. L. Cook, engineering chemist, Department of Public Works, acts as concrete technologist, as consultant on materials, and as engineer of tests of materials. Accounting is in charge of George S. Warren, Senior Accountant.

Headquarters engineering and administrative work is done by the Hetch Hetchy Water Supply office staff and the Bureau of Engineering of the Public Utilities Commission.

Field engineering and inspection are performed by the Hetch Hetchy Water Supply department field staff, the construction work in each vicinity being supervised by a construction engineer reporting to the headquarters office, with assistants as necessary.

When so authorized or directed, and provided with funds for the purpose, the engineering staff performs engineering work for other departments.

Publicity and Visitors:

The department collaborates with the Bureau of Public Relations in preparation of literature and lectures on the water supply system and related work.

Many trips are made over the work by outside engineers, by public bodies, and by visiting officials from other cities, states and countries. These parties are always given every assistance, and when necessary are accompanied by engineers from this office.

Relations with U. S. Department of the Interior:

The Raker Act, granting to the City certain rights of way and lands in Yosemite National Park, Stanislaus National Forest, and other public lands, requires that after the expiration of five years from the passage of the act the City pay to the United States on the first day of July of each year $15,000 annually for the first ten years, $20,000 annually for the next ten years, and $30,000 annually thereafter. The payment for 1939 was the first of the $30,000 payments, making a total of $380,000 paid on this account to July 1, 1939.

The engineers of the Hetch Hetchy water and power systems have frequently conferred with the superintendent and other officials of Yosemite National Park on matters affecting the mutual interests of the City and the Park Service. Relations have been cordial, both parties cooperating to work out satisfactory solutions of the problems presented.

Relations with the Department of the Interior during the fiscal year in reference to the disposal of power under the Raker Act are described in the Electric Power Bureau section of this report.

Hydrography:

Rainfall and stream flow for the season 1938-1939 were far below normal. The Tuolumne River run-off of 960,000 acre-feet at La Grange from October 1, 1938, to June 30, 1939, is about the same as that for the very dry season 1928-1929. Fortunately, it was possible for the City to cooperate with the Turlock and Modesto Irrigation Districts by storing flood waters in the enlarged Hetch Hetchy reservoir. Had O'Shaughnessy Dam not been raised, much of this water would have been spilled from both Hetch Hetchy and Don Pedro reservoirs, and would have flowed unused into the ocean.

In last year's report is mentioned the snow survey work done under the direction of the State Department of Public Works, Division of Water Resources, on a cooperative basis, by governmental and private agencies interested in conservation of water and in flood control.

The State issues four bulletins each year covering the snow survey work done in each of the months January to April inclusive, and in the two last bulletins of the series presents forecasts of the run-off for the period April to July inclusive. As the snow survey work has improved, these forecasts have become increasingly accurate and important. It is of great value in years of low flow to know the approximate quantity of run-off to be expected so that the best possible arrangements can be made for conserving the water both for San Francisco's water supply and for use by the Irrigation Districts on their land.

The snow survey work on the Tuolumne basin may at some future time perform another highly important function. If a plan for flood control on the Tuolumne River is put into operation, it will be urgent to have accurate forecasts in years of high run-off, in order best to plan flow regulation for the purpose of flood control.

Below are given the amounts of run-off predicted for 1938, and the amounts subsequently actually measured, and the predictions for 1939:

	1938		1939
	April to July, Incl. Acre-Feet Run-off		April to July, Incl. Acre-Feet Run-off
	Predicted	Measured	Predicted
Tuolumne River at Hetch Hetchy..	850,000	1,033,300	300,000
Tuolumne River at La Grange.....	1,800,000	2,159,300	540,000

The precipitation for the season 1938-39, and the natural flow of the Tuolumne River for the fiscal year 1937-38, at the stations named below, were as follows:

PRECIPITATION, IN INCHES

Month	Hetch Hetchy 1937-38 Season	Hetch Hetchy 1910-38 Average	Lake Eleanor 1937-38 Season	Lake Eleanor 1910-38 Average	Moccasin 1937-38 Season	Moccasin 1925-38 Average
July	0.11	0.21	0.10	0.12	0.05	0.01
August	0.00	0.12	0.00	0.14	0.00	0.01
September	0.96	0.63	1.05	0.72	0.31	0.15
October	4.89	1.90	5.23	1.95	3.38	1.32
November	2.07	2.64	2.34	3.40	1.43	2.17
December	1.83	4.52	2.17	6.18	0.92	3.84
January	4.07	6.04	6.15	7.92	4.37	4.68
February	3.40	5.74	5.60	7.81	2.95	5.71
March	5.00	4.89	5.12	5.61	4.09	3.96
April	0.68	3.16	0.81	3.45	0.36	2.32
May	2.02	1.83	1.88	1.77	1.40	0.68
June	0.56	0.83	0.34	0.76	0.00	0.29
Total	25.59	32.51	30.79	39.83	19.26	25.14

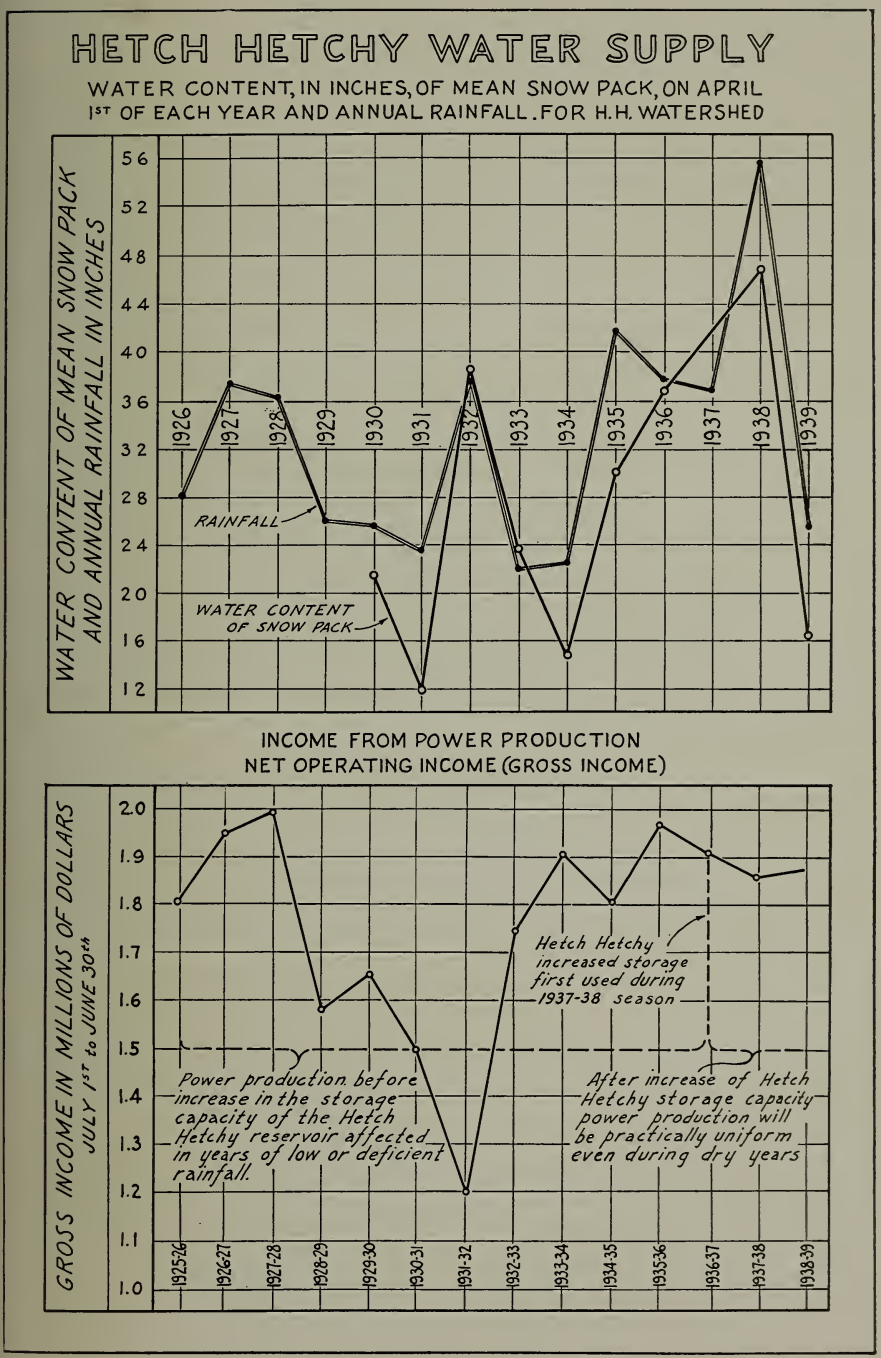
NATURAL FLOW OF THE TUOLUMNE RIVER, IN ACRE-FEET

Fiscal Year 1937-1938

Month	Hetch Hetchy	Lake Eleanor	Cherry Creek	La Grange
July	58,483	4,183	7,402	91,359
August	7,426	627	464	16,854
September	2,059	766	305	4,798
October	2,110	341	789	9,154
November	4,407	2,116	3,304	18,758
December	93,614	45,199	59,615	312,561
January	20,271	7,561	11,262	101,938
February	30,623	10,481	12,045	322,739
March	49,130	20,795	23,314	424,839
April	107,766	38,767	49,079	422,380
May	299,718	72,616	112,020	720,160
June	430,110	52,693	129,521	711,600
Total	1,105,717	256,145	409,120	3,157,140

Fiscal Year 1938-39

July	195,755	14,346	48,385	305,191
August	32,243	1,111	3,269	55,468
September	9,505	16	930	19,537
October	16,621	2,963	7,214	43,839
November	16,090	4,149	8,287	46,350
December	11,780	3,001	5,752	37,271
January	10,538	3,638	5,072	42,204
February	13,549	4,784	6,357	60,131
March	44,307	16,994	22,794	145,444
April	127,226	31,031	54,101	287,038
May	124,155	15,979	39,108	220,062
June	46,657	3,174	8,287	77,669
Total	648,426	101,186	209,556	1,340,204


HETCH HETCHY WATER SUPPLY
WATER CONTENT, IN INCHES, OF MEAN SNOW PACK, ON APRIL 1ST OF EACH YEAR AND ANNUAL RAINFALL. FOR H.H. WATERSHED
WATER CONTENT OF MEAN SNOW PACK AND ANNUAL RAINFALL IN INCHES
56
52
48
44
40
36
32
28
24
20
16
12
1926
1927
1928
1929
1930
1931
1932
1933
1934
1935
1936
1937
1938
1939
RAINFALL
WATER CONTENT OF SNOW PACK
INCOME FROM POWER PRODUCTION
NET OPERATING INCOME (GROSS INCOME)
GROSS INCOME IN MILLIONS OF DOLLARS JULY 1ST to JUNE 30TH
2.0
1.9
1.8
1.7
1.6
1.5
1.4
1.3
1.2
1.1
1.0
1925-26
1926-27
1927-28
1928-29
1929-30
1930-31
1931-32
1932-33
1933-34
1934-35
1935-36
1936-37
1937-38
1938-39
Hetch Hetchy increased storage first used during 1937-38 season
Power production before increase in the storage capacity of the Hetch Hetchy reservoir affected in years of low or deficient rainfall.
After increase of Hetch Hetchy storage capacity power production will be practically uniform even during dry years

The amount of water diverted from the Tuolumne River for San Francisco during the fiscal year is shown in the following table:

1938	Million Gallons	1939	Million Gallons
July	0.0	January	21.5
August	146.9	February	189.9
September	40.8	March	1,364.6
October	28.5	April	1,655.7
November	0.0	May	2,163.3
December	144.9	June	2,067.7
			7,823.8
Diverted prior to July, 1938			37,360.8
Total diversion to San Francisco since beginning of operation of Hetch Hetchy Aqueduct			45,184.6

At the end of the fiscal year the amount of water stored in Calaveras and Peninsula reservoirs of the Water Department was 35.1 billion gallons; in Hetch Hetchy and Lake Eleanor 105.3 billion gallons. At the present rate of supply to consumers, plus allowance for evaporation, the grand total of storage, 140.4 billion gallons, would be sufficient to last six years if no more water whatever flowed into the lakes during that time.

The City's defense against suits filed by various riparian owners has necessitated the systematic measurement and compilation of records of stream flow at several stations on the San Joaquin, Tuolumne, and Stanislaus Rivers in the lower San Joaquin Valley. Salinity tests of the San Joaquin River water are also made.

The ground water elevation is observed at intervals of about a month in a series of about 100 wells located in the vicinity of the stream channels. A record is kept of the amounts of water pumped from the rivers and used for irrigation by the various districts and individuals.

During construction of the aqueduct tunnels many springs and wells adjacent to the tunnels suffered a diminution of flow and some even ceased to flow. Numerous claims for damages were made against the City, and some suits were brought. Anticipating such claims, the department many years ago adopted the practice of locating, by survey, all springs and wells that could be found in a zone through which a tunnel was to be driven, and measuring the flow or yield of each several times annually. The information thus accumulated has enabled the engineer to compare the conditions existing before, during, and after tunnel construction, and to study the relation of flow to rain fall and other weather conditions. From such studies, and from geological investigation, a determination of the merit of each damage claim is made. In some cases the City has accepted responsibility, but in most cases where diminution or disappearance of flow has actually occurred it is believed to be the result of natural conditions. Many of the claims were presented during the "dry cycle" when rainfall was below normal for several years. The recent winters of normal rainfall have brought many of these springs back to a flow as good as, and sometimes better than, when first observed. Pending adjudication, all records of flow are being kept up to date by continuance of the observation above mentioned.

Water Litigation:

As stated in the report of last year, the City is defendant in a number of lawsuits involving water rights. The status of the cases in the most advanced state is shown below:

Meridian, Ltd. (El Solyo Ranch). On May 5, 1939, the California Supreme Court decided the case, Meridian, Ltd. v. The City and County of San Francisco, which had been pending before it for almost two years. Although the trial court in that case had decreed that the present maximum diversion right of plaintiff was only 66.8 second feet, it nevertheless restrained the City from storing any water in its enlarged Hetch Hetchy Reservoir beyond the original capacity of 206,000 acre-feet. The Supreme Court held that the City has the right to store water to the full capacity of its reservoirs at all times when there is available for diversion by plaintiff at its lands the amount of water decreed to it by the trial court.

In May, 1938, while the appeal in the Meridian case was pending, the City filled its enlarged Hetch Hetchy Reservoir. Meridian, Ltd. thereafter initiated contempt proceedings against the members and manager of the Public Utilities Commission of the City, although at the time of the storage complained of the San Joaquin River was at unusually high flood stages, running from a minimum of 18,945 second feet on the first day of storage, to a maximum of 28,966 second feet on the last day of storage. The trial court adjudged the manager and commissioners guilty of contempt and directed that each pay a fine of $100.00. The manager and commissioners petitioned the Supreme Court for a writ of review, on the ground that the injunction was mandatory in character and was automatically stayed by the pending appeal. On July 22, 1939, the Supreme Court upheld the contention of petitioners and annuled the order of the trial court.

Dan E. Williams, et al. The case, Williams, et al., vs. City and County of San Francisco, was re-tried in June, 1939. Briefs have been filed by respective counsel. It is expected that the trial judge will hear the oral arguments at an early date.

Turlock, Modesto, and Waterford Irrigation Districts. During the year further progress was made toward settlement out of court of matters of mutual concern to the City and the districts regarding water rights and the use of water. The decision of the State Supreme Court in the case, Meridian, Ltd. vs. City and County of San Francisco, as above described, has removed the obstacles for a final agreement upon the matter.

Negotiations for such an agreement will be initiated shortly by the Districts and the City.

Flood Control Studies on the Tuolumne River:

Pursuant to an agreement between the United States Engineer Office in Sacramento and the Public Utilities Commission, a study of the problem of flood control on the Tuolumne River was prepared by the Hetch Hetchy Water Supply department.

The study is part of a more comprehensive investigation of flood conditions on the San Joaquin River and its tributaries and of methods for this control, which has been delegated by the War Department to the United States Engineer Office in Sacramento, in charge of Colonel L. B. Chambers, C.E., District Engineer.

The preliminary plan by the United States Engineer Office calls for a regulation of the flood flows of the Tuolumne River to 12,000 cubic feet per second below

La Grange diversion dam owned by the Turlock and Modesto Irrigation Districts, and the studies made by the City in cooperation with the United States Engineer Office and the Turlock and and Modesto Irrigation Districts entailed investigation of flood conditions and of possibilities for regulating these floods by utilizing present storage reservoirs of the Districts and the City, augmented by such additional reservoirs as may be necessary.

The studies were concluded in June, and a report presenting the results has been delivered to the United States Engineer Office at Sacramento, California.

Hetch Hetchy Railroad:

The Sierra Railroad continued to operate the Hetch Hetchy Railroad as a common carrier during the first few months of the fiscal year 1938-1939. On September 9, 1938, the Interstate Commerce Commission granted authority to the Sierra Railroad to abandon operations over the road under its trackage agreement with the Public Utilities Commission, and the Commission by letter dated December 21, 1938, terminated the trackage agreement and relieved the railroad company of all its obligations under the terms of this agreement.

During the months of July, August, and September, 1938, the Sierra Railroad made extensive repairs to the tracks, bridges and structures designed to place the road in the same condition as when initially turned over to it for operation. The City's forces continued this work to place the road in better condition and to insure its availability during winter months when the railroad is the only method of transportation east of Groveland.

In addition to usual routine maintenance work on the railroad, a crew was employed during the fiscal year in replacing ties under all yard tracks at Moccasin and in reconstructing trestles at this location.

Property Appraisal:

Pursuant to a provision of the Charter, a property valuation as of June 30, 1938, of the fixed capital of the Hetch Hetchy Water Supply was made during the fiscal year 1938-39. The appraisal of the properties by both office and field forces of the department was incorporated into final property records by a firm of public accountants employed by the Commission to determine the property valuation of all utilities. The final total of the valuation of Hetch Hetchy Water Supply properties was reported as follows:

Total cost of fixed capital in service	$91,066,477.00
Accrued depreciation	$3,788,353.00
Annual depreciation rate	1.39%
Depreciation requirements for 1938-39	$1,266,751.30

Watersheds and Impounding Reservoirs:

Two of the City's reservoirs impound water collected on the granite watersheds of the Sierra Nevada. The principal reservoir, Hetch Hetchy, was erected by the construction of O'Shaughnessy Dam on the Tuolumne River and occupies what was formerly known as Hetch Hetchy Valley. It has a tributary area of 459 square miles of rugged mountains, the greater part of which is rarely visited by people. Lake Eleanor, the smaller reservoir, lies on Eleanor Creek, a tributary of Cherry

River, which in turn flows into Tuolumne River. The lake has a watershed area of 79 square miles, and as no roads traverse this area, visitors are rare. Both reservoirs lie within Yosemite National Park. Between the reservoirs and the intake of the aqueduct there is an additional watershed area of 61 square miles.

These reservoirs assure San Francisco an ample supply of water for domestic, industrial and municipal purposes for many years to come. Incidentally, the water released from these reservoirs provides San Francisco with a substantial cash income from disposal of hydro-electric power generated at Moccasin Power House.

The reservoirs (principally Hetch Hetchy) have proven a distinct benefit to water users along the lower Tuolumne and San Joaquin Rivers, by regulating the flow of the Tuolumne River. The benefits of such regulation were demonstrated during the past season. Approximately 140,000 acre-feet of water accumulated from the heavy inflow into the reservoir during the spring of 1938 were carried over into the spring of 1939, and will be used for water supply and power purposes of the City, and such water as the City passes down the Tuolumne River will be available to irrigationists and others at a time when it will be vitally necessary to supplement the relatively small quantity of water available from the scant rain and snow falls of the 1938-1939 season.

A reservoir keeper and an assistant are employed at O'Shaughnessy Dam.

During the fall of 1938, the maintenance crew assisted the keeper in burning drift on the reservoir. This drift, consisting mostly of logs entering the reservoir from the streams feeding it, is collected in booms by the keeper during high water. A second power boat was placed in the reservoir this year for handling this and other work.

The Hetch Hetchy Reservoir trails constructed by the City's force in 1931 were greatly damaged during the winter of 1938-1939. Throughout the past year the National Park Service has made extensive repairs to the trails, including the replacement of the Falls Creek bridge and other bridges which were washed away by the high water in the streams.

Operation at Lake Eleanor is in charge of a reservoir keeper who lives at Eleanor dam. During the summer he is assisted by a maintenance crew in clearing the reservoir of logs, repairing roads, and in other maintenance work.

Quarters at O'Shaughnessy Dam Camp:

During the fiscal year, the 5-room cottage completed under Contract No. 173 on March 31, 1938, and one of the 3 old cottages reconditioned under Contract No. 149, were furnished for the accommodation of officials and engineers. An approach road to the new 5-room cottage was constructed and a space provided at the end of the road for turning vehicles.

Minor improvements have been made throughout the year to buildings, roads, grounds, and parking areas so that the camp and the vicinity of the dam now present a most pleasing appearance, all evidence of the great construction activity during the work of enlarging the O'Shaughnessy Dam having been removed.

Two buildings constructed for the City's use during enlargement of the dam were by Resolution No. 2918 of the Public Utilities Commission transferred to the National Park Service, and will remain for the use of the rangers and other park service officials.

Quarters at Lake Eleanor:

Plans are under consideration for a new cottage to be constructed at Lake Eleanor dam, to replace the old existing cottage and provide satisfactory housing for the reservoir keeper and his family. The present quarters, built at the time of construction of the dam, over 20 years ago, and not intended as permanent, have depreciated to such an extent that early replacement is necessary. An application filed with the Federal Emergency Administration of Public Works, for aid in financing this work and other items of Hetch Hetchy Water Supply construction under the 1938 W. P. A. program, was not approved. The cottage construction will therefore be financed wholly with City funds. Plans and specifications will be prepared in time to permit starting work in the spring of 1940.

O'Shaughnessy Dam:

The enlargement of O'Shaughnessy Dam by the Transbay Construction Company under Contract No. 149 having been completed, official acceptance of the work under this contract was made as of July 1, 1938. The enlarged dam was dedicated October 16, 1938, as described in the Annual Report for the fiscal year 1937-1938, pages 8 to 15 inclusive.

Continuing a program commenced early in the construction of the new section of the dam, periodical observations and measurements have been made as a part of a comprehensive survey of stress conditions in the dam, which not only is desirable for the Hetch Hetchy Water Supply department's own information, but is required by the State Engineer. These observations, made as the water level in the reservoir changed, include strain gauge readings, observations of electric strain meters and joint meters (which are strain gauges of special form embedded in the concrete, with wiring to permit their indications to be shown at distant points), transit observations of deflections of points on the crest resulting from water pressure against the dam, and observations of a plumb line for the same purpose. Temperatures of water in the reservoir and of the concrete in the dam are also recorded.

The 1938 flood discharge, cascading from the spillway outlet to return to the river shifted a large quantity of boulders and gravel in the river channel below the dam, in such a way that this accumulated material formed a bar across the channel, downstream from the dam. This raised the surface of the pool at the downstream toe of the dam so that the lower inspection galleries (which are open to the downstream face) remained flooded with five to ten feet of water when no water was entering the pool, and deeper when water was being discharged from the valves or the spillway into the pool. To improve the situation, a channel was excavated through the bar to lower the static water level in the inspection galleries to permit inspection of the lower portion of the dam, and to better provide for access of air and thus improve ventilation conditions in galleries throughout the dam. This work was done by force account in November and December, 1938. The channel through the bar was excavated by first breaking large boulders and loosening wedged material by dynamiting, and then moving the loose material downstream with the flow of the water discharged from the various outlets of the dam. The channel, however, could not economically be made large enough to accomplish the full desired result, and the problem of ventilation and drainage is to be solved otherwise, as mentioned below.

Studies were made of three problems arising in connection with the operation of the O'Shaughnessy Dam, as follows:

1. Ventilating the lower galleries and valve chambers,
2. Removal of water from the lower galleries and valve chambers,
3. Elimination of the vibration existing when the 72-inch butterfly valve is operated at or near its fully opened position.

Surveys were made at the dam and plans and specifications were prepared for Contract No. 180, for furnishing and installing an eduction system, a conduit aerating system, and a ventilating system. The date for receiving bids for this work has been fixed as July 7, 1939.

Lower Cherry Aqueduct:

As more fully described in the annual report for the fiscal year 1937-1938, the Lower Cherry Aqueduct carries water diverted from the Cherry River, which during the low-flow season is fed from Lake Eleanor Reservoir, to the Early Intake power plant, from which the water after passing the turbines, is released into the Tuolumne River, or into the main Hetch Hetchy Aqueduct for re-use in the Moccasin power plant. The continued advantageous operation of the Early Intake power plant, constructed initially to produce power for construction purposes on the Hetch Hetchy project, justifies the numerous improvements that have been made from time to time in this aqueduct.

Under Contract No. 177, a mechanically-cleaned bar screen was installed in the forebay at the head of the penstocks leading to the power plant. This equipment was found necessary to avoid the trouble which has been experienced, using hand labor, in keeping the grizzlies of the forebay from becoming clogged by water-borne leaves, twigs, and branches. The bar screen is constructed of closely spaced steel bars set in a nearly vertical position directly over the forebay outlet. The cleaning device is a rake fitted with teeth which extend into the spaces between the bars of the screen. The rake is raised and lowered by an electric motor-driven hoist capable of being operated automatically and at different speeds. The rake in descending clears the screen by about one foot, but when raised the teeth of the rake mesh with the spaces in the screen. Debris brought up by the rake is discharged on a platform by the tilting action of the rake as it reaches the top of its stroke. This equipment was furnished and installed by the Link-Belt Company, Pacific Division, at a contract price of $5,600.00 The contract period commenced September 24, 1938, and all work under the contract was completed December 6, 1938. The work of removing the existing grizzly and some work on the forebay necessary to accommodate the screen was done by City forces.

A City crew removed a large accumulation of gravel and boulders deposited behind the diversion dam and in front of the aqueduct headworks. The accumulation of this material was considerably greater than in previous years due to the severe rain storm during the week ending December 11, 1937, described in the last previous anual report. A debris deflector which will prevent sand, gravel, and other material from being carried into the aqueduct or from obstructing the headworks is under consideration.

In June and July, City forces constructed a concrete curb or lift on the canal lining at many points along the aqueduct. This increase in the height of the canal lining will provide greater free-board, and reduce the hazard of over-topping the canal banks when it is operated at maximum capacity.

In addition to the usual maintenance work of repairing roads, fences, and other structures in the vicinity of Early Intake, the labor crew replaced ties on the tramway, repaired stream gauging stations, and worked on the reconstruction of the power house switch structure, which latter work is more fully described in the Electric Power Bureau section of this report.

Plans and specifications were prepared for a proposed contract (No. 178) for constructing gunite lining in about 5,000 linear feet of open canal of the Lower Cherry Aqueduct, to increase the carrying capacity and improve the operating characteristics of the aqueduct. These were filed with the Federal Emergency Administration of Public Works (P.W.A.) as part of the City's application for government aid in financing this and other public utilities work. As no action was taken on this application, the gunite lining work in the canal was postponed until it can be otherwise financed.

Plans and specifications were prepared for Contract No. 182, for constructing four 5-room cottages, with appurtenant facilities, at Early Intake camp. These cottages are required for the housing of permanent employees who must reside at Early Intake and are now housed in inconveniently located or temporary quarters. This work also was included in the P.W.A. application above mentioned, but as the cottages are necessary, they will be constructed without financial aid from the P.W.A. Detailed surveys were made of the cottage sites and adjacent grounds. At the close of the year the plans and specifications for this work were nearly complete, and the invitation for proposals will be advertised in July, 1939.

Surveys and studies were made for a spillway to be built at the west portal of tunnel 2A, Lower Cherry Aqueduct, to provide for emergency control of the flow of water in the aqueduct at a location closer to the power house and more easily accessible than the headgates at the diversion dam. Plans and specifications for Contract No. 181, covering this work, were practically completed at the close of the fiscal year, and proposals can be received for the work in July, 1939.

Main Aqueduct, Mountain Division:

This division, which extends from Early Intake to Priest Reservoir, consists of a 5-mile tunnel and a 14-mile tunnel, connected by 225 feet of 9½-foot diameter steel pipe crossing South Fork of the Tuolumne River.

A considerable amount of road maintenance was done in this division during the fiscal year. Due principally to the extended storms mentioned in the report for 1937-38, an unusually large amount of work was necessary on the road from South Fork to Mather, and the connecting road from this road to Early Intake. All culverts were repaired on these roads, and many new culverts were installed.

The construction of the trail to the South Fork pipe crossing was completed in August, 1938, and a foot bridge across the Middle Fork of the Tuolumne River was built. This trail replaces an old road which was so badly damaged by storms of past winters that its reconstruction as a road was considered inadvisable.

A septic tank was constructed and toilet facilities provided in the electric shop at Groveland during the year.

As a protection against forest fires, brush was cleared away from all structures, and fire trails were cut at many locations in this division. Brush was cleared from the telephone line and electric transmission line rights of way in this division to avoid interference with these services.

The temporary water supply pipe line from Second Garrotte shaft to Groveland was abandoned. Water service to the town of Groveland was discontinued several years ago, but this supply line was used during the past years to provide water for the operation of the Sierra Railway in connection with the enlargement of O'Shaughnessy Dam. The pump and other equipment at the shaft will be removed in the fall of 1939.

Main Aqueduct, Moccasin Division:

In this division, water is carried from Priest Reservoir through 5,370 feet of 13-foot tunnel and 5,580 feet of steel penstock pipes to Moccasin Power Plant, and there discharged into Moccasin Re-regulating Reservoir. Work on this division is carried on joinly by the Water Supply and the Power Operation Departments. For additional information on work in this division see the Power Bureau's section of this report.

Contract No. 175, L. Ubels, contractor, for constructing concrete walks, water services, electric services, and sewer services at Moccasin and Priest, was completed August 2, 1938. The total payment under this contract was $11,991.20, or $466.55 under the estimated contract price for the work.

The reservoir tender, with the assistance of labor crews, cut and burned weeds and brush and otherwise cleared Moccasin Reservoir. Grass was burned around the Moccasin building area and around all other structures in this division. Some fire trails were built and other fire protection work was done during the year.

The tramway paralleling the penstock pipe lines, which was used for transporting pipe sections and other materials up the hill during the construction of the penstocks, was repaired during the year. These repairs consisted of replacing ties, strengthening trestles, and similar work. As mentioned before, ties were replaced on all railroad trackage at Moccasin.

Termite control work and repairs to buildings damaged by termites continued during the past year.

The creek bed about the upper Moccasin Dam was cleared of debris that had been carried down the creek by flood flow. The Grizzly Gulch Canal required cleaning during the year, to remove accumulations of gravel carried into it by storms.

There has been an increase in gold mining activities in the vicinity of Moccasin. The creek bed below the reservoir has been turned over by the work of a gold dredger. These operations have been carried right up to the downstream line of the City's property, and the operators have offered to purchase the right to work the gravel on this property. This department does not look with favor on the proposition, largely because of the unsightly appearance of land on which the dredger has worked.

Main Aqueduct, Foothill Division:

This division consists of two tunnels, 5.28 and 10.57 miles in length, respectively, connected by the Red Mountain Bar siphon pipe 0.45 mile long crossing the Tuolumne River Canyon and Don Pedro Reservoir.

The usual maintenance work was done in this division. Roads to Brown Adit and from Hetch Hetchy Junction to Oakdale Portal were improved. Water supply

lines to working points in this division, and water tanks at the various points, were serviced and maintained in continuous operating condition.

The surveys to keep up the record of the condition of the springs and wells in this division continued, following the previously established procedure. This record is being maintained in anticipation of claims by property owners adjacent to the aqueduct, that the tunnel had drained or impaired the water supply on their property.

During the year, the railroad depot and other buildings at Hetch Hetchy Junction were removed. The only buildings now remaining are the warehouse, two small work shops, and two small cottages. Certain materials salvaged from these buildings were stored at Moccasin for possible future re-use. At the close of the fiscal year plans were in progress for the sale of surplus equipment and other materials stored at this point. After this sale is made, other buildings will be removed and the City property will be further cleared of the facilities used during construction.

The Sierra Railway continued during the year to take rock from the tunnel dump at Hetch Hetchy Junction, for use for track ballast.

Main Aqueduct, San Joaquin Division:

In this division a pipe line averaging 5 feet in diameter, 47.5 miles long, crosses the San Joaquin Valley from Oakdale Portal, the western terminus of the Foothill Tunnel, to Tesla Portal, the eastern terminus of the Coast Range Tunnel. The capacity of this pipe line at present limits the quantity of water that can be carried by the Hetch Hetchy Aqueduct, as all other sections of the aqueduct are constructed for greater capacity. When the sustained delivery of water from Hetch Hetchy sources in quantities in excess of 70 million gallons per day is necessary, the present pipe line will be paralleled by a second line.

During the late spring the San Joaquin pipe line was operated almost continuously at its maximum capacity of 70,000,000 gallons daily. This was made necessary by the light seasonal precipitation an dthe resulting low run-off into the Calaveras and Peninsular reservoirs of the Water Department, and by a sharp increase in consumption, due partly to the light rainfall and partly to the extension of service into new territory, and to additional consumers.

The usual maintenance work was done during the year. Valve houses and valve boxes were cleaned, exposed pipe was painted, valves were operated for test purposes and were serviced. Bridges for roads used by maintenance crews were constructed over several irrigation canals. Labor crews worked on control of willow growth on the right of way near the San Joaquin River.

Three contracts were completed during the year in connection with improvements at the San Joaquin valve house located near Elliott Cut, a short distance east of the San Joaquin River. In the spring of 1938 this house was flooded twice, and it has been flooded in previous years. As a protection a levee was constructed around the house and faced with rip-rap, and a pump and other facilities were provided in the house.

Work under Contract No. 174, for constructing the levee, awarded January 24, 1938, could not be commenced until September 6, 1938, due to the spring floods and the long continuance of flood conditions and resulting soft ground conditions. The levee was completed on September 30, 1938, at a total cost of $1,649.80.

Contract No. 179, for placing rip-rap on the levee was awarded to Charles D. Warner. Work on the contract was done during the period from October 3, 1938, to October 19, 1938, at a cost of $1,400.00.

Under Contract No. 176, Pacific Coast Construction Company, contractor, furnished and installed in the valve house, an electric motor-driven vertical centrifugal sump pump, complete with all necessary piping for draining the house; an electric motor and silent drive chain for an existing oil pump and compressor, and other improvements to the equipment in the house. Switches, wiring and other electrical devices were installed for operation of the motors and for lighting the building. A connection was made to the power lines of the Modesto Irrigation District for the electric supply to the house. Contract No. 176 was awarded September 26, 1938, and work under the contract was completed December 9, 1938, at a total cost of $1,677.00.

An informal contract was let for the construction of a division warehouse, with garage and office space, on property in Oakdale which was acquired in the spring of 1938. Other improvements at this location, such as fences, driveways, etc., were provided.

The improvement of State Highway, Route No. 99, where it crosses the Hetch Hetchy Aqueduct right of way necessitated the relocation of a manhole on the pipe, the building of a new concrete box for the manhole in its new location, and the construction of a concrete jacket around the pipe under the new section of the highway. This work was done according to plans and specifications of the Hetch Hetchy Water Supply by the contractor for the California State Highway Commission, and all costs were borne by the State.

Main Aqueduct, Coast Range Division:

The aqueduct in this division consists of a 25.07-mile tunnel and a 3.45-mile tunnel connected by the 69-inch diameter concrete Alameda Creek siphon pipe 0.59 mile in length. The tunnels are lined with concrete, 10.5 feet inside diameter, and have a designed flow capacity of 250 million gallons daily. The 44-inch pipe line from Calaveras Reservoir of the San Francisco Water Department connects to the 69-inch diameter concrete pipe at Alameda Creek.

Routine maintenance work on the City's roads and structures in this division was performed during the year. The 9.5-foot diameter concrete-jacketed steel pipe from the tunnel portal to the manifold at Irvington Portal was covered with earth backfill by City forces using the City's tractor and bulldozer. This pipe was left uncovered to this time, so that if there should be any leakage from behind the tunnel portal it could readily be detected and measured and steps taken to stop it. No such leakage developed in the four years' time since the aqueduct was put in service.

Surveys of the condition of the springs and wells in the division were continued throughout the year. These surveys are being made to procure a record to be used in adjusting or combating claims by owners of property adjacent to the aqueduct, on account of alleged damages, due to the tunnel construction, to the water supply on their property. These surveys have indicated a seasonal fluctuation in the flow of springs; in many cases the flow increased as a result of the heavy rainfall of the 1937-38 season, but decreased during the past relatively dry season. Facilities have been provided and are maintained for furnishing water to certain property owners pending final disposal of their claims.

The removal of pipes, hangers, electric cables, and debris from shafts along the tunnel line and from the cross-cuts of the working chambers at the tunnel level, mentioned in the previous annual report, continued during July and August, 1938. During this period, the Thomas ventilating shaft and the Indian Creek construction shaft were cleared, completing the work for the division.

Immediately following completion of the clean-out, all shafts and the entire line of tunnels were inspected in detail. The concrete lining of tunnels and shafts was found to be in excellent condition throughout.

The program for the sale of surplus equipment was continued. With only a relatively small amount of usable equipment and material available, it has become difficult to find buyers, and the costs incidental to sales have been high in proportion to the results, so procedure was commenced towards the end of the fiscal year for the sale of all surplus Hetch Hetchy Water Supply equipment, materials and supplies remaining at the headquarters yard at Livermore, at construction camps in this division, and at Moccasin and Hetch Hetchy Junction. The removal of this surplus equipment will permit the sale and removal of construction buildings at all locations, and will save the cost of rental of the yard at Livermore.

A headquarters establishment comprising office, warehouse, and yard was established during the year on property purchased by the City at School Street and East Avenue in Livermore. Construction equipment was moved to this location during the year.

Main Aqueduct, Bay Crossing and Peninsular Divisions:

The Bay Crossing division extends from Irvington Portal, the western terminus of the Coast Range Tunnel, 21.24 miles, to Redwood Portal, the inlet to Pulgas Tunnel. It consists in general of two parallel pipe lines, 5 feet and 5.5 feet in diameter. Across the navigable channel at Dumbarton Strait, for a distance of 0.6 miles, there are two 54-inch pipes and one 42-inch pipe, especially designed for underwater construction. The combined capacity of the pipe lines is about 110 million gallons daily.

The Peninsular division includes the Pulgas Tunnel, 10¼ feet in diameter, and the outfall canal discharging into Crystal Springs Reservoir, a total length of 1.89 miles.

Operation, maintenance, and other work in the Bay Crossing and Peninsular divisions are under the jurisdiction of the San Francisco Water Department.

Construction for the Water Department: Palo Alto Pipe Line:

The Hetch Hetchy Water Supply supervised the construction of the Palo Alto Pipe Line under San Francisco Water Department Contract No. 156, which was completed during the fiscal year. A description of the work under this contract is given on pages 126 and 127 of the annual report for 1937-1938.

All pipe under this contract, except the San Francisquito Creek crossing, was laid by June 9, 1938, and on June 30, 1938, the contract work was 91.2% complete. All work under the contract was completed on August 11, 1938. During July and

August, the contractor completed the construction of the pipe crossing at San Francisquito Creek, installed closing-in sections of pipe, installed fittings and other appurtenances to the pipe line, and completed the backfilling, the repaving of streets, and the replacement of concrete walks and curbs. On September 23, 1938, it was recommended that the contractor be paid the full amount earned under the contract, with the exception of $2,000.00 reserved to be held pending the adjustment of damage claims made by owners and tenants of the property along the line. The $2,000.00 held in abeyance was released in February, 1939.

The total payment to Macco-Robertson, Ltd., contractor under Contract No. 156, for construction of the Palo Alto Pipe Line, was as follows:

Amount earned on contract items	$206,552.75
Amount due to extra work	10,494.21
Total final payment	$217,046.96

Construction for Yerba Buena Airport and Golden Gate International Exposition:

Construction work under Federal Public Works Administration Docket No. 1427, for the construction of buildings, ferry slips, etc., on Yerba Buena Shoals (Treasure Island) and elsewhere in the City and County of San Francisco, was completed on June 30, 1938. The field supervision by the Bureau of Engineering of this work terminated at that time. A few men were retained on the island during July, 1938, to complete records in connection with the work and to assist the operating force of the Exposition Company to become familiar with the operation of equipment installed under this docket.

The total expenditures under P. W. A. Docket No. 1427, reported as of June 1, 1939, were $4,320,658.96, divided into major items as follows:

Preliminary expenses	$364.56
Construction contracts	3,927,848.63
Construction material purchases	40,024.37
Inspection and testing	85,255.20
Bureau of Engineering office expense	22,870.19
Fees for architectural and engineering services	238,072.07
Legal and administrative	6,209.33
Miscellaneous	14.61
Total	$4,320,658.96

Pertinent information on all contract work done under this docket is given on pages 129 and 130 of the annual report for 1937-1938.

Construction for San Francisco Airport:

The preparation of plans and specifications and the supervision of construction work of San Francisco Airport are handled by the Bureau of Engineering and the

LANDING FIELD EXTENSION

Work was in progress during the year in reclaiming 300 acres to extend the airport to the east. Trucks shown weigh 80,000 pounds loaded and carry 16 yards of rock. They travel over a specially constructed road between quarry site and fill. Project is under direction of Bureau of Engineering.

Hetch Hetchy Water Supply. During the fiscal year 1938-39, a considerable quantity of work was done in advancement of the elaborate program for improvement of the landplane and seaplane ports with the funds available from the bond issue, in the amount of $2,850,000.00, approved by the voters in November, 1937. Under this program a levee has been constructed to enclose the 325-acre addition to the landing field, and work is in progress under contract in placing an earth and rock fill over areas to be occupied by runways on the field extension. Extended runway drainage and lighting work was done during the year on the existing field. The existing runways were lengthened, widened, and paved.

A detailed account of the improvements made at the San Francisco Airport during the fiscal year is included in the report of San Francisco Airport.

HETCH HETCHY WATER SUPPLY

CURRENT CONTRACT DATA, FISCAL YEAR 1938–1939

No. 174—Levee at San Joaquin Valve House; C. D. DeVelbiss, Contractor; Date of start, March 1, 1938; time allowed, 214 days; completed, September 30, 1938; price bid, $1,500; payments to June 30, 1939, $1,649.80; fund, 1932 bonds.

No. 175—Concrete walks and services at Moccasin and Priest; L. Ubels, Contractor; date of start, June 9, 1938; time allowed, 75 days; completed, August 2, 1938; price bid, $12,457.75; payments to June 30, 1939, $11,991.20; fund, 1932 bonds.

No. 176—Furnishing and installing drainage pump, piping, etc., San Joaquin Valve House; Pacific Coast Construction Co., Contractor; date of start, October 25, 1938; time allowed, 45 days; completed, December 9, 1938; price bid, $1,677; payments to June 30, 1939, $1,677; fund, 1932 bonds.

No. 177—Furnishing and installing mechanically-cleaned bar screen in Lower Cherry Aqueduct; Link-Belt Co., Contractor; date of start, September 24, 1938; time allowed, 75 days; completed, December 6, 1938; price bid, $5,600; payments to June 30, 1939, $5,600; fund, 1932 bonds.

No. 178—Canal lining, Lower Cherry Aqueduct; specifications prepared; work postponed.

No. 179—Rip-rap facing on levee, San Joaquin Valve House; Charles C. Warner, Contractor; date of start, October 12, 1938; time allowed, 40 days; completed, October 24, 1938; price bid, $1,400; payments to June 30, 1939, $1,400; fund, 1932 bonds.

No. 180—Furnishing and installing eduction system, etc., for O'Shaughnessy Dam; bids to be received July 7, 1939.

No. 181—Spillway, Lower Cherry Aqueduct; specifications practically completed.

No. 182—Cottages, Early Intake; specifications practically completed.

EXHIBIT A

HETCH HETCHY WATER SUPPLY

BALANCE SHEET—JUNE 30, 1939

ASSETS

PROPERTIES:

This is the proportion of the cost to build the Hetch Hetchy Project allocated to the production and transmission of water. See Schedule 1 and 5 for detail..... $93,224,680.09

This is the amount of expenditure to date for construction work not yet completed..... 9.59

$93,224,689.68

It is estimated that the above properties have depreciated in value to the extent of..... 5,100,238.81

Present book value of physical properties..... $88,124,450.87

CASH:

Cash deposited with the Treasurer of the City and County of San Francisco amounts in total to $3,534,172.88. Of this, $31.662.32 has been advanced by the San Francisco Water Department and the Hetch Hetchy Power Division for the operation and maintenance of the properties in the production and transmission of water; $432,891.81 is the balance remaining in the 1928, 1932 and 1933 Bond Construction Funds, of which $406,106.32 is unencumbered: $1,460,526.25 is on deposit in the various Bond Interest Funds; of which $161,-526.25 is for interest coupons not yet presented for payment and $1,299,000.00 for interest due July 1, 1939; $1,608,000.00 is on deposit in various Bond Redemption Funds; of which $8.000.00 is for matured bonds not yet presented for payment and $1,600,000.00 for bonds maturing July 1, 1939; $1,092.50 is on deposit in the Land Purchase Fund, which represents the result of sales of land not needed in the production and transmission of water. See Schedule No. 2 for details of above..... 3,534,172.88

LIABILITIES

BONDED DEBT:

The Hetch Hetchy Water Supply proportion of the bonds outstanding total $58,195,100.00. Of this amount $1,608,000.00 in cash has been deposited with the Treasurer, $8,000.00 for bonds matured but not presented for payment and $1,600,000.00 for bonds maturing July 1, 1939. The balance, $56,587,100.00, are unmatured bonds, the first maturing December 1, 1939, and the last, July 1, 1977. See Schedule No. 2 for detail..... $58,195,100.00

BOND INTEREST PAYABLE:

Matured Coupons Unpaid—

This is money due Bond Holders who have not yet presented their coupons for payment, cash for the payment of these coupons is now on deposit with the Treasurer..... 161,526.25

Maturing July 1, 1939—

This is money due Bond Holders for interest due on the first day of July, 1939, cash for payment of this interest is now on deposit with the Treasurer..... 1,299,000.00

Accrued—Not Due—

This is the amount of interest on bonds accrued during the month of June, 1939, but is not due and payable until December 1, 1939. See Schedule No. 2 for detail..... 36,382.07

ACCOUNTS PAYABLE:

This is the amount due to General Creditors for material, etc., purchased. $3,150.15 is the amount of invoices which have not yet been audited by the Controller and $30,276.17 is the amount of Warrants issued but not cashed by the Creditors... 33,426.32

OTHER CASH:

We have $5,000.00 in a Revolving Fund available for the payment of expense accounts and other small items by the Utilities Engineer. Of the total $1,665.40 is represented by the Receipted Vouchers and Reimbursements in Transit and $3,334.60 by cash on hand and deposited in bank..... 5,000.00

ACCOUNTS RECEIVABLE:

We have an outstanding Accounts Receivable for $16.65 representing a charge to an employee which was not collected until July, 1939..... 16.65

INTERFUND ACCOUNTS RECEIVABLE:

This is the amount due the Hetch Hetchy Water Supply from other City Departments for work performed. See Schedule No. 3 and No. 4 for detail..... 52,432.63

INVESTMENTS:

This is the purchase price of land within the City of San Francisco. At the time of purchase this land was bought for reservoir sites for the Hetch Hetchy Project. Amazon Reservoir Site $299,193.00 and Glen Park Reservoir Site $161,732.00, a total of..... 460,925.00

DEFERRED CHARGES:

$273,850.00 worth of material and equipment was salvaged from the abandoned Corral Hollow Pipe Line; $4,292.50 was advanced to the P. G. & E. Co. for construction of a power line to Tesla Chlorinator, a balance of $3,434.00 remains unamortized; $656.00 was advanced to the General Fund for the payment of electric energy bills, $338.40 of this remains unused; $805.82 was expended on work not yet completed; $11,477.23 is an item held in suspense for a claim by the State for sales tax on sales of surplus construction equipment, a contra item for which has been set up in the liabilities; $2,856.74 is the amount of outstanding purchase orders and other commitments for which a contra item has been set up in liabilities. All of the above items held in suspense amount to 292,762.19

$92,469,760.22

INTERFUND ACCOUNTS PAYABLE:

This is the amount due other City Departments by the Hetch Hetchy Water Supply for services rendered or work performed. See Schedule No. 3 and 4 for detail..... 27,379.78

DEFERRED CREDITS:

This is the amount received and set aside to perform certain obligations or reserved for contracts, purchase orders and other commitments made by the Hetch Hetchy Water Supply. 48,149.27

This is the total of the outstanding obligations of the Hetch Hetchy Water Supply..... $59,800,963.69

SURPLUS

This is the ownership of the people of San Francisco in the Hetch Hetchy Water Supply System. It represents the amount that the present value of the properties, cash, investments and other assets exceeds the outstanding obligations. For detail of the composition of this surplus see Exhibit C..... 32,668,796.53

$92,469,760.22

EXHIBIT B
HETCH HETCHY WATER SUPPLY
COMPARATIVE OPERATING STATEMENT
FISCAL YEARS ENDED JUNE 30, 1938, AND JUNE 30, 1939, AND PERIOD JULY 1, 1935, TO JUNE 30, 1939

	OPERATING EXPENSES	Fiscal Year Ended June 30, 1939	Fiscal Year Ended June 30, 1938	Period July 1, 1935, to June 30, 1939
	PLANT OPERATING			
6000	Salaries and Wages	$6,748.32	$6,704.43	$53,038.14
6010	Contributions to Retirement System	524.94	391.75	2,471.55
6020	Compensation Insurance	.....	.....	113.19
6030	Traveling	59.27	58.51	400.56
6050	Operating Supplies	689.83	614.67	4,298.04
6090	Miscellaneous	613.79	635.86	1,464.11
6095	Production Rents	12,500.00	10,000.00	26,680.00
6096	Rent of Warehouse	90.00	90.00	180.00
	Total Plant Operating	$21,226.15	$18,495.22	$88,645.59
	REPAIRS AND MAINTENANCE			
7000	Buildings and Structures (Water)	$3,060.13	$2,595.43	$8,681.79
7002	Buildings and Structures (Joint)	4,957.58	4,553.30	12,588.91
7010	Reservoirs, Dams and Intakes	1,465.57	1,147.25	3,795.04
7015	Water Ways	485.84	215.33	1,003.87
7020	Pipelines	7,015.36	5,994.70	19,450.52
7030	Miscellaneous	1,284.64	1,766.69	6,721.23
7035	Aqueduct Tunnels	1,964.02	6,693.69	11,543.48
7040	Roads and Trails (Lake Eleanor to Moccasin)	7,229.79	6,679.13	25,530.34
7041	Roads and Trails (Moccasin to Tesla Portal)	1,187.80	1,337.08	3,404.45
7042	Roads and Trails (Tesla Portal to Irvington)	1,013.40	1,957.17	4,494.83
7050	Automotive Transportation Equipment (Water)	*510.29*	*1,830.71*	*729.34*
7051	Automotive Transportation Equipment (Joint)	626.51	895.73	3,779.67
7090	Miscellaneous	1,770.97	2,069.05	8,331.65
7095	Hydrography	3,727.98	3,558.43	14,792.64
	Total Repairs and Maintenance	$35,279.30	$37,632.27	$123,389.08
	ADMINISTRATIVE AND GENERAL			
8000	Salaries and Wages	$13,416.25	$13,626.28	$49,463.31
8005	Contributions to Retirement System	523.44	390.90	1,915.18
8010	Services of Other Departments	12,103.59	8,342.54	31,282.63
8015	Professional Services	1,450.00	2,682.71	6,907.71
8020	Stationery, Office Supplies and Postage	377.45	403.19	1,609.23
8025	Telephone and Telegraph	494.90	576.21	1,493.00
8030	Traveling	561.01	678.94	3,185.81
8035	Insurance	108.55	.....	115.92
8040	Injuries and Damages	62.31	46.11	1,144.86
8041	Allowance for Sick Leave	.....	500.00	500.00
8051	Automobile Insurance Premiums	471.79	591.39	2,142.79
8061	Water Rights and Damage Claims	30,756.58	24,004.89	54,761.47
8062	Legal Expense—Water Rights Litigation	420.41	2,513.38	2,933.79
8095	Miscellaneous	.54	3.14	3.68
	Total Administrative and General	$60,746.82	$54,359.68	$157,459.38
	Net Operating Expense	$117,252.27	$110,487.17	$369,494.05
	NON-OPERATING REVENUES			
5205	Rental Income Miscellaneous	$2,343.20	$2,507.83	$10,155.87
5210	Interest Earned on Bank Deposits	.....	4.10	26.61
5220	Interest Earned on Treasurer's Balance	.....	.....	5,332.75
5290	Miscellaneous	29.14	.....	29.14
	Total Non-Operating Revenues	$2,372.34	$2,511.93	$15,544.37
	NON-OPERATING EXPENSE			
9000	Bond Interest	$2,699,239.43	$2,781,434.54	$10,826,987.20
9020	Taxes	4,066.19	3,919.08	10,980.65
9030	Valuation of Properties	10,563.52	.....	10,563.52
9050	Depreciation Expense	1,320,503.57	1,266,751.30	5,115,924.05
	Total Non-operating Expense	$4,034,372.71	$4,052,104.92	$15,964,455.42
	Net Loss Transferred to Surplus	$4,149,252.64	$4,160,080.16	$16,318,405.10

Italic figures denote loss and deficiency.

EXHIBIT C
HETCH HETCHY WATER SUPPLY
SURPLUS ACCOUNT
FOR THE TWELVE MONTHS ENDED JUNE 30, 1939

SURPLUS—JUNE 30, 1938		$32,360,346.10
ADD:		
Contributions from Hetch Hetchy Power Division for Bond Interest and Redemption	$1,577,848.00	
Contributions from Hetch Hetchy Power Division for Additions and Betterments, 1938-1939	192.77	
Contributions from San Francisco Water Department for Bond Interest and Redemption	447,025.00	
Contributions from San Francisco Water Department for Additions and Betterments, 1938-1939	3,155.86	
Contributions from San Francisco Water Department for Operating Expenses, 1938-1939	131,881.98	
Contributions from General Fund for Bond Interest and Redemption	2,643,091.50	4,803,195.11
Total		$37,163,541.21
DEDUCT:		
Net Loss for 12 Months Ending June 30, 1939	$4,149,252.64	
Contributions to Hetch Hetchy Power Division for Moccasin Diversion Works and Buildings	345,492.04	4,494,744.68
Surplus—June 30, 1939		$32,668,796.53

Composition of Surplus
June 30, 1939

ADDITIONS:			
Contributions from Taxes and General Fund		$30,109,732.64	
Contributions from Hetch Hetchy Power Division for Bond Interest and Redemption and Construction		17,143,629.38	
Contributions from Hetch Hetchy Power Division for Additions and Betterments		9,600.74	
Contributions from San Francisco Water Department for Bond Interest and Redemption		1,788,100.00	
Contributions from San Francisco Water Dept. for Operating Expenses		391,038.22	
Contributions from San Francisco Water Department for Additions and Betterments		25,113.88	
Interest Received from Other Funds		77,801.23	
Bond Premium, 1910-1932		1,240,169.26	
Bond Premium, 1933 Hetch Hetchy Dam Bonds		137,438.55	
Grants earned on Federal Public Works Projects—Hetch Hetchy Dam and Moccasin Diversion Works		1,211,450.00	
Miscellaneous Additions to Surplus:			
Refund on Audit Expense	$6.62		
Sale of Old Buildings, Moccasin Portal and South Fork Camps	125.00		
Refund on Deposit, County Treasurer, Alameda County	19.00		
Refund on Old Hospital Bills, J. E. Gray, January, 1937	3.75	154.37	$52,134,228.27
DEDUCTIONS:			
Net Loss, July 1, 1935 to June 30, 1939		$16,318,405.10	
Bond Discount, 1910 Bond Fund		737,956.39	
Retirement of Corral Hollow Pipe Line		1,333,375.00	
Cost of Newark-San Lorenzo Pipe Line Transferred to San Francisco Water Department		1,063,840.76	
Loss on South Fork Road due to slide in winter, 1937-1938		10,000.00	
Miscellaneous Deductions from Surplus:			
Cost of Printing Bonds	$728.73		
Loss on Sale of one new Circuit Breaker	600.00		
Reversal of Bond Interest prorated to P. W. A. Moccasin Diversion Works	525.76	1,854.49	19,465,431.74
Surplus—June 30, 1939			$32,668,796.53

SCHEDULE No. 1
HETCH HETCHY WATER SUPPLY
FIXED CAPITAL IN SERVICE
JUNE 30, 1939

Account Number			Cost Detail	Cost Total	Accrued Depreciation Detail	Accrued Depreciation Total
1010		FRANCHISES AND WATER RIGHTS		$2,735,630.00		
	C-2	Franchises and Water Rights	$2,735,630.00			
1015		LANDED CAPITAL		1,772,048.13		$114,180.18
	C-5A	Source of Water Supply Land	172,163.00			
	C-5D	Right of Way Land	611,808.14			
	C-5E	General Office and Other Lands	68,928.00			
	C-5F	Roads, Trails and Other Lands (Including Hetch Hetchy Railroad)	919,148.99		$114,180.18	
1020		BUILDINGS, STRUCTURES AND GROUNDS		195,067.21		35,483.27
	C-6A	Source of Water Supply Buildings and Fixtures	141,272.21		18,800.97	
	C-6B	Pumping Station Buildings and Fixtures	11,014.00		1,101.35	
	C-6C	Purification Buildings and Fixtures	28,210.00		1,010.20	
	C-6D	General Office and Other Buildings and Fixtures	14,571.00		14,570.75	
1025		SOURCE OF WATER SUPPLY CAPITAL		88,174,873.96		4,897,324.83
	C-7	Impounding Dams and Reservoirs	16,320,573.93		588,291.59	
	C-8	Lake and River Cribs	747,161.00		30,917.57	
	C-13	Canals and Conduits	71,107,139.03		4,278,115.67	

1030	PUMPING STATION EQUIPMENT		24,521.00		4,904.05
	C-14 Pumping Equipment	24,521.00		4,904.05	
1035	PURIFICATION CAPITAL		37,207.00		2,964.86
	C-16 Purification Capital	37,207.00		2,964.86	
1045	GENERAL EQUIPMENT		124,132.32		38,841.62
	C-24A General Office Equipment	4,499.01		1,262.33	
	C-24D General Stable and Garage Equipment	25,506.96		11,827.24	
	C-24E General Construction Equipment	30,679.85		12,071.98	
	C-24F Railroad Rolling Stock	14,804.00		5,913.38	
	C-24G Communication System	43,690.00		7,596.04	
	C-24H Other Equipment	4,952.50		170.65	
1049	GENERAL CAPITAL UNCLASSIFIED		51,154.81		
	C-24J General Capital Unclassified	51,154.81			
1050	UNDISTRIBUTED CONSTRUCTION EXPENDITURES		110,045.66		6,540.00
	C-25A Engineering and Superintendence	988.16			
	C-25E Miscellaneous Construction Expenditures	122,444.50		6,540.00	
	C-25F Undistributed Construction Expenditures	*13,387.00*			
	TOTAL—JUNE 30, 1939	Schedule No. 5	$93,224,680.09	Schedule No. 1A	$5,100,238.81

Italic figures denote loss and deficiency.

SCHEDULE No. 1A
HETCH HETCHY WATER SUPPLY

RESERVE FOR DEPRECIATION OF PLANT
JUNE 30, 1939

Description	1 Value in Service	2 Cost of Removal	3 Salvage	4 Net Debits to Reserve 1+2—3=4	5 Credits to Reserve	6 Credit Balance 5—4=6
Balance of Reserve, June 30, 1938—(Credit)						$3,785,353.00
Amount Credited to Reserve and Charged to Expense, Fiscal Year 1938-39					$1,320,503.57	
Retirement of:						
Re-roof Cottage, Tesla Portal	$224.00	.....	.....	$224.00		
Repair of 3 H.H.W.S. Houses at Mather	749.92	.....	.....	749.92		
Remove Slide and Debris from Foot of O'Shaughnessy Dam	1,736.93	.....	.....	1,736.93		
Application for Federal Grant—1938 P.W.A. Projects	340.83	.....	.....	340.83		
1 Oxy-acetylene Torch and Attachments	47.68	.....	.....	47.68		
1 BD Utility Electric Drill, ⅞—110 Volt—60 Cycle	74.30	.....	.....	74.30		
1 Packard Sedan Motor, No. 1501—H.H. No. 16	3,466.00	.....	2,000.00	1,466.00		
Partial Replacement of Ties, E. I. Tramway	272.52	705.58	.....	978.10		
Total Debits and Credits to Reserve, Fiscal Year 1938-39	$6,912.18	$705.58	$2,000.00	$5,617.76	$1,320,503.57	$1,314,885.81
Balance of Reserve, June 30, 1939 (Credit)						$5,100,238.81

SCHEDULE No. 2
HETCH HETCHY WATER SUPPLY
DETAIL OF FUNDS, BONDED DEBT, AND WARRANTS OUTSTANDING
JUNE 30, 1939

	Operating Funds	Bond Funds	Land Purchases H.H.W.S. Fund	Bond Interest Funds	Bond Redemption Funds	Bonded Debt Matured Unpaid	Bonded Debt Unmatured	Bond Interest Matured Unpaid	Bond Interest Accrued Not Due	Warrants Outstanding
						$6,000.00		$585,000.00*		
1910—4½%	.....	.....	.....	$603,900.00	$1,006,000.00	1,000,000.00*	$25,000,000.00	18,900.00	.....	.....
								187,500.00*		
1925—5%	.....	.....	.....	189,775.00	.....	.....	7,500,000.00	2,275.00	.....	.....
						2,000.00		526,500.00*		
1928—4½%	.....	$584.06	.....	544,117.50	602,000.00	600,000.00*	22,800,000.00	17,617.50	.....	$506.00
1932—5¾%	.....	.....	.....	61,496.25	.....	.....	4,156,000.00	61,496.25	$19,914.16	.....
1932—5%	.....	.....	.....	11,950.00	.....	.....	1,213,000.00	11,950.00	5,054.17	.....
1932—4½%	.....	.....	.....	495.00	.....	.....	143,000.00	495.00	536.25	.....
1932—4%	.....	.....	.....	1,560.00	.....	.....	270,000.00	1,560.00	899.99	.....
1932—3%	.....	.....	.....	915.00	.....	.....	194,000.00	915.00	485.00	.....
1932—2¾%	.....	149,574.32	.....	2,557.50	.....	.....	324,000.00	2,557.50	742.50	.....
1933—4%	.....	282,733.43	.....	43,760.00	.....	.....	2,625,000.00	43,760.00	8,750.00	20,000.00
Hetch Hetchy Water Supply....	$31,662.32	.....	$1,092.50	.....	.....	.....	.....	.....	.....	9,770.17
						$8,000.00		$161,526.25		
	$31,662.32	$432,891.81	$1,092.50	$1,460,526.25	$1,608,000.00	$1,600,000.00*	$64,225,000.00	$1,299,000.00*	$36,382.07	$30,276.17
Less H. H. Power Division Proportion of Bonded Debt Unmatured.....							7,637,900.00			
							$56,587,100.00			

*Maturing July 1, 1939.

SCHEDULE No. 3
HETCH HETCHY WATER SUPPLY
DETAIL OF INTERFUND BALANCES
June 30, 1939

PUBLIC UTILITY ENTERPRISES	Order	Department Number	Controller's Number	Invoice Number	Debit	Credit
3300 SAN FRANCISCO WATER DEPARTMENT						
Automobile Maintenance Packard Sedan No. 16	W. O.	868-60	2091	6-74		$5.82
Automobile Maintenance Packard Sedan No. 15	W. O.	868-61	2092	6-75		1.75
Long Distance Telephone Service—January 1, 1939, to June 30, 1939	W. O.	868-54	1997	6-73		140.20
Refund of Balance of Operating Advance, for Year 1938-1939				J.E. 6-47		14,337.97
						$14,485.74
3310 HETCH HETCHY POWER DIVISION						
Services in Connection with Replacement of Physical Properties	W. O.	867-6, 25, 26	238, 1184, 1455	H 6- 4	$13,999.85	
Replacement of Wooden Cover with Metal Cover, Moccasin Power House Sump	W. O.	867- 7	239	H 6- 5	326.56	
Routine Maintenance of Communication System—January 1 to June 30, 1939	W. O.	867-31	1887	H 6- 8	3,688.66	
Routine Maintenance of Transmission System—January 1 to June 30, 1939	W. O.	867-30, 42	1888, 3291	H 6- 9	9,897.03	
Replace Poles, Crossarms, etc., in Transmission Line—Jan. 1 to June 30, 1939	W. O.	867-34	1872	H 6-10	963.04	
Replace Poles, Crossarms, etc., in Telephone Line—Jan. 1 to June 30, 1939	W. O.	867-35	1873	H 6-11	799.30	
Replace Porcelain Insulator Units in 110 K.V. Transmission Line—Jan. 1 to June 30, 1939	W. O.	867-41	3029	H 6-12	1,510.92	
Expenses in Replacing Voltage Regulator, Moccasin Power House	W. O.	867-39	2817	H 6-13	154.86	
Replace Defective Parts of 10 Switches in Transmission Line	W. O.	867-22	1027	H 6-14	3,734.10	
Additional Contribution Due for Operating Expenses 1938-1939				J.E. 6-48	7,780.17	
Materials Furnished from Stores, June, 1939	D. P.			6- 8		2,542.35
Adjustment of Cash Transfer No. 516, May 25, 1939—To Be Adjusted in August				J.E. 6-50		.01
					$42,854.49	$2,542.36
3340 SAN FRANCISCO AIRPORT						
Funds Advanced from 1932 Hetch Hetchy Bond Fund for Engineering Expenditures					$3,297.15	
Field Engineering, Supervision, and Inspection of 1938 Airport Project—May and June, 1939	W. O.	99-55	2911	H 6-16	6,259.11	
					$9,556.26	
Total—Public Service Enterprises					$52,410.75	$17,028.10

SCHEDULE No. 4
HETCH HETCHY WATER SUPPLY

DETAIL OF INTERFUND BALANCES
June 30, 1939

	GENERAL CITY AND COUNTY	Order	Department Number	Controller's Number	Invoice Number	Debit	Credit
3400	EMPLOYEES' RETIREMENT SYSTEM						
	H. H. W. S. Employees' Contributions—June, 1939	D. P.			6- 6		$126.32
	H. H. W. S. Employees' Contributions—June, 1939	D. P.			6- 7		530.85
	Compensation and Medical Services—June, 1939	D. P.			6-13		101.87
							$759.04
3440	PUBLIC UTILITIES COMMISSION						
	Expenses Assisting U. S. Engineers with Cooperative Flood Control Studies on Tuolumne River	W. O.	862-106	2654	H 6- 6	$21.88	
	General Operation and Maintenance Hetch Hetchy Aqueduct—January 1 to June 30, 1939	W. O.	868- 59	1891			
			64	3289	H 6-72		$2,600.11
	Salaries, Wages, etc., Investigation of Claims for Hetch Hetchy Water Supply—January 1, to June 30, 1939	W. O.	868- 58	2002			
			63	3222	H 6-71		6,992.53
						$21.88	$9,592.64
	Total—General City and County					$21.88	$10,351.68

SCHEDULE No. 5
HETCH HETCHY WATER SUPPLY

1000 FIXED CAPITAL IN SERVICE
June 30, 1939

Account		Balance June 30, 1938	Gross Additions	Retirement	Adjustments	Balance June 30, 1939
1010-2C	Franchises and Water Rights	$2,735,630.00	.....	.....	.....	$2,735,630.00
1015-C5	Landed Capital:					
A	Source of Water Supply Land	172,163.00	.....	.....	.....	172,163.00
D	Right of Way	612,549.00	$300.00	$1,040.86	.....	611,808.14
E	General Office and Other Lands	68,928.00	.....	.....	.....	68,928.00
F	Roads, Trails and Tramways (Including Hetch Hetchy R. R.)	928,905.00	516.51	10,272.52	.....	919,148.99
1020-C6	Buildings, Structures and Grounds:					
A	Source of Water Supply Buildings and Fixtures	135,108.00	6,914.13	749.92	.....	141,272.21
B	Pumping Station Buildings and Fixtures	11,014.00	.....	.....	.....	11,014.00
C	Purification Buildings and Fixtures	28,210.00	224.00	224.00	.....	28,210.00
D	General Office and Other Buildings and Fixtures	14,571.00	.....	.....	.....	14,571.00
1025-C7	Impounding Dams and Reservoirs	12,095,098.00	4,227,212.86	1,736.93	.....	16,320,573.93
1025-C8	Lake and River Cribs	747,161.00	.....	.....	.....	747,161.00
1025-C13	Canals and Conduits	71,231,244.00	3,118.57	4,598.39	*$122,625.15*	71,107,139.03
1030-C14	Pumping Equipment	24,521.00	.....	.....	.....	24,521.00
1035-C16	Purification Capital	37,207.00	.....	.....	.....	37,207.00
1045-C24	General Equipment:					
A	General Office Equipment	3,628.00	871.01	.....	.....	4,499.01
D	General Stable and Garage Equipment	40,386.00	3,995.96	3,466.00	*15,409.00*	25,506.96
E	General Construction Equipment	.....	481.66	.....	30,198.19	30,679.85
F	Railroad Rolling Stock	14,004.00	.....	.....	800.00	14,804.00
G	Communication System	43,690.00	.....	.....	.....	43,690.00
H	Other Equipment	853.00	4,099.50	.....	.....	4,952.50
1049-C24J	General Capital Unclassified	2,121,577.00	.....	2,068,220.00	*2,202.19*	51,154.81
1050-C25	Undistributed Construction Expenditures:					
A	Engineering and Superintendence	.....	1,328.99	340.83	.....	988.16
E	Miscellaneous Construction Expenditures	.....	.....	180.65	122,625.15	122,444.50
F	Undistributed Construction Expenditures	.....	.....	.....	*13,387.00*	*13,387.00*
		$91,066,447.00	$4,249,063.19	$2,090,830.10	.....	$93,224,680.09

Italic figures denote loss and deficiency.

SCHEDULE No. 5A
HETCH HETCHY WATER SUPPLY
GROSS ADDITIONS
June 30, 1939

1015-C5D	LANDED CAPITAL—RIGHT OF WAY		
	Deed of Water Rights from Lucy A. Curtin		$300.00
1015-C5F	LANDED CAPITAL—ROADS, TRAILS & TRAMWAYS		
	Road Construction for Guest Cottage No. 1 at O'Shaughnessy Dam	$243.99	
	Partial Replacement of Ties, Early Intake Tramway	272.52	516.51
1020-C6A	BLDGS., STRUCTURES & GROUNDS—SOURCE OF WATER SUPPLY BLDGS.		
	Construction of Levee, San Joaquin Valve House	5,382.23	
	Install Transformers, Meters, etc., to Serve Permanent Buildings at O'Shaughnessy Dam	25.99	
	Repair of 3 H. H. W. S. Houses at Mather	749.92	
	Warehouse at Oakdale	755.99	6,914.13
1020-C6C	PURIFICATION BUILDINGS AND FIXTURES		
	Re-roof Cottage, Tesla Portal		224.00
1020-C7	IMPOUNDING DAMS AND RESERVOIRS		
	Remove Slide and Debris from Foot of O'Shaughnessy Dam	1,736.93	
	Enlargement of O'Shaughnessy Dam	4,224,977.33	
	Ventilation & Drainage System at O'Shaughnessy Dam—Eng.	498.60	4,227,212.86
1025-C13	CANALS AND CONDUITS		
	Hospitalization Coast Range Division	44.54	
	Removing Pipe Hangers and Wire from 6 Coast Range Division Shafts	2,611.70	
	Reline Arthur Holm Well with Corrugated Iron Pipe	232.33	
	Deepen Connolly Well	230.00	3,118.57
1045-C24A	GENERAL OFFICE EQUIPMENT		
	Furnish and Install Venetian Blinds in Rooms 403, 404 at 425 Mason Street	73.76	
	Furnish and Install Drapes and Cornices for 4 Windows in Room 404	110.96	
	¾ Hardtwist F. R. Carpet Sewed and Laid over 32-oz. Lining, 425 Mason Street	193.95	
	1 Roll Top Desk, Walnut, Size 72x36, Stow-Davis	210.34	
	1 Top Grain Leather Upholstered Removable Cushion, Revolving Arm Chair, Stow-Davis	75.00	
	1 Table, Walnut, Size 84x42, Stow-Davis	83.50	
	4 Side Arm Chairs, Walnut Sikes & 1266	86.00	
	2 Costumers, Walnut, Stow-Davis No. 200C	25.00	
	1 Steel Waste Basket, Walnut Finish, Stow-Davis	3.50	
	3 Desk Trays, Walnut, Stow-Davis	9.00	871.01
1045-C24D	GENERAL STABLE AND GARAGE EQUIPMENT		
	1 Bosser 5 gal. Gasoline Pump with Galv. Steel Storage Tank 1000 gal. (Second Hand)	53.07	
	1 Packard Super-8 Model Touring Sedan, Serial No. 1113-2004, Motor A-500089	3,942.89	3,995.96
1045-C24E	GENERAL CONSTRUCTION EQUIPMENT		
	1 Wooden Skiff 13 ft. 6 in. long, 4 ft. 2 in. x 1 ft. 4 in., 2 Oars	96.13	
	1 Oxy-Acetylene Welding Torch, Attachments & Nozzles	47.68	
	1 BD Utility Electric Drill, ⅞-110 Volt, 60 Cycle with No. 3 Moose Taper Chuck	74.30	
	1 Concrete Mixer, Rex 3½ S with Engine & Trailer	263.55	481.66
1045-C24H	OTHER EQUIPMENT		
	Furnishings for Guest Cottage No. 1 at O'Shaughnessy Dam	2,150.11	
	Furnishings for Guest Cottage No. 2 at O'Shaughnessy Dam	1,949.39	4,099.50
1050-C25A	ENGINEERING AND SUPERINTENDENCE		
	Application for Federal Grant 1938, P.W.A. Project	340.83	
	Complete Records Concerning the Hetch Hetchy Project, Engr. Data, etc	988.16	1,328.99
	TOTAL GROSS ADDITIONS		$4,249,063.19

SCHEDULE No. 5B
HETCH HETCHY WATER SUPPLY

RETIREMENTS
June 30, 1939

1015-C5D	RIGHTS OF WAY		
	Lands and Rights of Way, Coast Range Division	$18.36	
	Sale of Land to State of California—Right of Way Land Over Hetch Hetchy Pipe Line, in Stanislaus County	1,022.50	$1,040.86
1015-C5F	ROADS, TRAILS, AND TRAMWAYS		
	South Fork Road—Loss Due to Slide 1937-38	$10,000.00	
	Partial Replacement of Ties in Early Intake Tramway	272.52	10,272.52
1020-C6A	SOURCE OF WATER SUPPLY BUILDINGS AND FIXTURES		
	Repair of Three Hetch Hetchy Water Supply Houses at Mather		749.92
1020-C6C	PURIFICATION BUILDINGS AND FIXTURES		
	Reroof Cottage, Tesla Portal		224.00
1025-C7	IMPOUNDING DAMS AND RESERVOIRS		
	Removal of Slide and Debris from Foot of O'Shaughnessy Dam		1,736.93
1025-C13	CANALS AND CONDUITS		
	Repair, Sale, and Handling, of Surplus Construction Equipment	$4,476.41	
	One Oxy-acetylene torch and attachments	47.68	
	One B. D. Utility electric drill, 7/8", 110 volt, 60 cycle	74.30	4,598.39
1045-C24D	GENERAL STABLE TO GARAGE EQUIPMENT		
	One 1936 Packard Sedan, Motor No. 1501, H. H. No. 16		3,466.00
1049-C24J	GENERAL CAPITAL UNCLASSIFIED		
	Corral Hollow and Tesla-Sunol Project:		
	Rights of way (abandoned)	$30,028.00	
	Pipe line (abandoned)	1,577,197.00	
	Amazon Reservoir site	299,193.00	
	Glen Park Reservoir site	161,732.00	
	Sale of cook houses, at H. H. Junction	35.00	
	Sale of 4 bunk houses, at H H. Junction	35.00	2,068,220.00
1050-C25A	ENGINEERING AND SUPERINTENDENCE		
	Application for Federal Grants, 1938 P. W. A. projects		340.83
1050-C25E	MISCELLANEOUS CONSTRUCTION EXPENDITURES		
	Material, Supplies, and Equipment Surplus from construction.		180.65
	Total Retirements		$2,090,830.10

HETCH HETCHY WATER SUPPLY

COMPARISON OF ACTUAL REVENUES AND EXPENDITURES WITH BUDGET ESTIMATES

FISCAL YEAR 1938-39

PRODUCTION EXPENSES	Month of June, 1939 — Budget	Revenues Expenditures Accruals	Increase or Decrease	Twelve Months to June 30, 1939 — Budget	Revenues Expenditures Accruals	Increase or Decrease
Plant Operations	$697.12	$2,235.47	$1,538.35	$8,365.00	$21,226.15	$12,861.15*
Repairs and Maintenance	3,283.37	3,961.67	678.30	39,400.00	35,279.30	*4,120.70*
Administration and General	5,111,75	6,065.92	954.17	61,341.00	60,746.82	*594.18*
Total Operating Expense, exclusive of depreciation	$9,092.24	$12,263.06	$3,170.82	$109,106.00	$117,252.27	$8,146.27
Taxes	337.44	343.86	6.42	4,049.83	4,066.19	16.36
Interest on Long Term Debt	225,088.75	223,345.57	*1,743.18*	2,701,065.00†	2,699,239.43	*1,825.57*†
Bond Redemption	32,421.00	32,421.00	.....	389,052.00	389,052.00	.....
Purchase of Equipment	295.87	1,452.91	1,157.04	3,550.00	3,091.30	*458.70*
Current Replacements and Reconstruction	175.00	.....	*175.00*	2,100.00	2,064.87	*35.13*
	$267,410.30	$269,826.40	$2,416.10	$3,208,922.83	$3,214,766.06	$5,843.23
Receipts:						
San Francisco Water Department	$47,000.55	$47,000.55	.....	$564,005.83	$564,005.83	.....
Hetch Hetchy Power Division	152.12	152.12	.....	1,825.00	1,825.00	.....
General Fund	220,257.63	220,257.63	.....	2,643,092.00	2,643,092.00	.....
	$267,410.30	$267,410.30	.....	$3,208,922.83	$3,208,922.83	
Net Savings on Budget Estimate			*$2,416.10*			*$5,843.23*

*Production Rents deleted from Budget 1938-39. Accrual to June 30, 1939, $12,500.00.
†Cash basis.

Italic figures denote loss and deficiency

HETCH HETCHY WATER SUPPLY

EXPENDITURES—FISCAL YEAR 1938-1939

Account	Description	Amount	Hetch Hetchy Power Proportion		San Francisco Water Dept. Proportion	
			Per Cent	Amount	Per Cent	Amount
	PLANT OPERATING					
6000	Salaries and Wages	$18,540.11	..	$11,791.79	..	$6,748.32
6010	Contributions to Retirement System	739.34	29	214.40	71	524.94
6030	Traveling	59.27	..	.....	100	59.27
6050	Operating Supplies	689.83	..	.....	100	689.83
6090	Miscellaneous	613.79	..	.....	100	613.79
6095	Production Rents	25,000.00	50	12,500.00	50	12,500.00
6096	Rent of Warehouse	90.00	..	.....	100	90.00
		$45,732.34		$24,506.19		$21,226.15
	REPAIRS AND MAINTENANCE					
7000	Buildings and Structures (Water)	$3,060.13	..	.....	100	$3,060.13
7001	Buildings and Structures (Power)	3,750.37	100	$3,750.37	..	.....
7002	Buildings and Structures (Joint)	24,787.88	80	19,830.30	20	4,957.58
7005	Forebays, Penstocks, and Tailraces	2,554.03	100	2,554.03	..	.....
7010	Reservoirs, Dams, and Intakes	7,327.96	80	5,862.39	20	1,465.57
7015	Waterways	2,429.26	80	1,943.42	20	485.84
7020	Pipe Lines	7,794.83	10	779.47	90	7,015.36
7025	Hydraulic Power Plant Equipment	4,286.77	100	4,286.77	..	.....
7030	Miscellaneous Equipment (Joint)	2,569.29	50	1,284.65	50	1,284.64
7035	Aqueduct Tunnels	1,964.02	..	.....	100	1,964.02
7040	Roads and Trails (Lake Eleanor to Moccasin)	14,459.58	50	7,229.79	50	7,229.79
7041	Roads and Trails (Moccasin to Tesla)	2,375.60	50	1,187.80	50	1,187.80
7042	Roads and Trails (Tesla to Irvington)	1,013.40	..	.....	100	1,013.40
7050	Automotive Transportation Equipment (Water)	*510.29*	..	.....	100	*510.29*
7051	Automotive Transportation Equipment (Joint)	1,253.01	50	626.50	50	626.51
7052	Automotive Transportation Equipment (Power)	13.22	100	13.22	..	.....
7090	Miscellaneous	3,541.94	50	1,770.97	50	1,770.97
7095	Hydrography	4,659.98	20	932.00	80	3,727.98
		$87,330.98		$52,051.68		$35,279.30

	ADMINISTRATIVE AND GENERAL					
8000	Salaries and Wages	$18,554.77	..	$5,138.52	..	$13,416.25
8005	Contributions to Retirement System	737.23	29	213.79	71	523.44
8010	Services of Other Departments	12,103.59	..	.....	100	12,103.59
8015	Professional Services	1,450.00	..	.....	100	1,450.00
8020	Stationery, Office Supplies, and Postage	377.45	..	.....	100	377.45
8025	Telephone and Telegraph	494.90	..	.....	100	494.90
8030	Traveling	561.01	..	.....	100	561.01
8035	Insurance	542.75	80	434.20	20	108.55
8040	Injuries and Damages	87.75	29	25.44	71	62.31
8051	Automobile Insurance Premiums	471.79	..	.....	100	471.79
8061	Water Rights and Damage Claims	30,756.58	..	.....	100	30,756.58
8062	Legal Expense—Litigation re Water Rights	420.41	..	.....	100	420.41
8095	Miscellaneous	.54	..	.....	100	.54
		$66,558.77		$5,811.95		$60,746.82
	FIXED CHARGES					
9020	Taxes Actually Paid	$8,132.37	50	$4,066.18	50	$4,066.19
9030	Valuation of Properties	10,563.52	..	.....	100	10,563.52
		$18,695.89		$4,066.18		$14,629.71
	Total Operating Expenses	$218,317.98		$86,436.00		$131,881.98
2000–1045	Equipment	$988.24	100	$988.24	..	.....
2000–519	Trash Screen, Forebay Early Intake (1936-1937)	5,958.33	100	5,958.33	..	.....
3602–226	Change over Drainage from Valve Pits, Moccasin Power House	170.96	100	170.96	..	.....
	Total Expenditures	$225,435.51		$93,553.53		$131,881.98

Italic figures denote loss and deficiency.

HETCH HETCHY WATER SUPPLY
EXPENDITURES—FISCAL YEAR 1938-1939

Account	Description	Amount	Hetch Hetchy Power Proportion		San Francisco Water Dept. Proportion	
			Per Cent	Amount	Per Cent	Amount
	EQUIPMENT					
1045	One New Skiff, with Oars	$96.13	..	.....	100	$96.13
1045	One Bosser, 5 Gallon Gasoline Pump, with Steel Storage Tank	53.07	..	.....	100	53.07
1045	Venetian Blinds, for Windows in Rooms 403 and 404	73.76	..	.....	100	73.76
1045	Hardtwist Carpet, Room 404	193.95	..	.....	100	193.95
1045	Drapes and Cornices for Windows, Room 404	110.96	..	.....	100	110.96
1045	New Office Equipment: 1 Roll Top Desk 1 Upholstered Walnut Swivel Chair 1 Walnut Table 4 Walnut Side Arm Chairs 2 Walnut Costumers 1 Steel Waste Basket 3 Walnut Desk Trays	492.34	..	.....	100	492.34
1045	One 3½ S. Rex Concrete Mixer, with Engine and Trailer	263.55	50	131.78	50	131.77
	Total Equipment	$1,283.76		$131.78		$1,151.98
	CURRENT DEPRECIATION REPLACEMENTS					
3608–1045–1	One Victor Welding Torch and Attachments	$47.68	50	$23.84	50	$23.84
3608–1045–2	One B. D. Utility Electric Drill	74.30	50	37.15	50	37.15
3608–1045–2	One Packard Super Eight, Model 1604, Touring Sedan	1,942.89	..	.....	100	1,942.89
	Total Depreciation Replacements	$2,064.87		$60.99		$2,003.88
	Total Equipment and Depreciation Replacements	$3,348.63		$192.77		$3,155.86
	Total Expenditures (Sheet 12)	225,435.51		93,553.53		131,881.98
		$228,784.14		$93,746.30		$135,037.84
	Reserve of Unexpended Oper. Advances, June 30, 1939 (Detail Attached)	5,781.74		2,027.17		3,754.57
		$234,565.88		$95,773.47		$138,792.41
	Reserve of Unexpended Operating Advances to June 30, 1938 (Detail Attached)	$38,843.68		$7,591.30		$31,252.38
	Annual Appropriation Ordinance (1938-1939)			70,402.00		121,878.00
	Controller's Cash Transfer Voucher, Sept. 12, 1938—No. 81	192,280.00				
	Rental Payment to U. S. Government, under Section 7 of the Raker Act	10,000.00	$241,123.68	10,000.00	$87,993.30	$153,130.38
	Additional Contribution from Hetch Hetchy Power Division		7,780.17		7,780.17	
	Refund to San Francisco Water Department		*14,337.97*			*14,337.97*
			$234,565.88		$95,773.47	$138,792.41

Italic figures denote loss and deficiency.

RESERVE OF SAN FRANCISCO WATER DEPARTMENT AND HETCH HETCHY POWER OPERATING ADVANCES FOR COMMITMENTS, AS OF JUNE 30, 1939

Order	Number	Description	Account	Amount	Hetch Hetchy Power Proportion		San Francisco Water Dept. Proportion	
					Per Cent	Amount	Per Cent	Amount
Purchase	45884	Tide Water Associated Oil Company	7052	$25.00	100	$25.00	..	.....
Purchase	46267	Kahn and Keville	7050	25.00	..	.....	100	$25.00
Purchase	46503	General Electric Supply Corporation	3602-224	21.37	100	21.37	..	.....
Purchase	46535	Byers and Orum	7052	25.00	100	25.00	..	.....
Purchase	46536	Stuart Oxygen Co	7090-5	5.00	50	2.50	50	2.50
Purchase	46571	Central Garage and Battery Co	7052	25.00	100	25.00	..	.....
Purchase	46573	Stuart Oxygen Co	7035-3	1.20	..	.....	100	1.20
Purchase	46574	Priola and Ryder	7050	25.00	..	.....	100	25.00
Purchase	46575	Central Garage and Battery Co	7050	25.00	..	.....	100	25.00
Purchase	46606	Tide Water Associated Oil Company	7050	40.00	..	.....	100	40.00
Purchase	46607	Tide Water Associated Oil Company	7050	30.00	..	.....	100	30.00
Purchase	46608	Kahn and Keville	7050	25.00	..	.....	100	25.00
Purchase	46609	Tide Water Associated Oil Company	7050	70.00	..	.....	100	70.00
Purchase	46610	Earle C. Anthony, Inc	7050	50.00	..	.....	100	50.00
Purchase	46611	Tide Water Associated Oil Company	7052	60.00	100	60.00	..	.....
Purchase	46612	Laurent and Mills	7052	50.00	100	50.00	..	.....
Purchase	46613	Tide Water Associated Oil Company	7052	25.00	100	25.00	..	.....
Purchase	46650	Johnson Mfg. Co	3602-224	81.20	100	81.20	..	.....
Purchase	46872	Peterson Tractor and Equipment Co	7051	48.01	50	24.00	50	24.01
Purchase	47015	Patterson Parts, Inc	7090-5	25.75	50	12.88	50	12.87
Purchase	47016	C. W. Marwedel	7090-5	12.44	50	6.22	50	6.22
Purchase	47116	Kahn and Keville	7050	63.41	..	.....	100	63.41
Work	668-3/2316	Turlock Irrigation District	2000-508	950.00	..	.....	100	950.00
Enc. Req.	868-1/27	M. G. Callaghan	8061	100.00	..	.....	100	100.00
Enc. Req.	868-3/28	U. S. Geological Survey	7095	680.02	20	136.00	80	544.02
Enc. Req.	868-3/28	U. S. Geological Survey	8061	318.34	..	.....	100	318.34
Work	868-6/198	Install Armor Rods on Transmission Conductors	3602-224	850.00	100	850.00	..	.....
Work	668-3/2316	Meter Rating Station—Turlock (1936-1937)	2000-508	950.00	10	95.00	90	855.00
		Pump, Low Head Suction, 1500 to 2000 G.P.M	2000-1045	1,175.00	50	588.00	50	587.00
				$5,781.74		$2,027.17		$3,754.57

HETCH HETCHY WATER AND POWER PROJECT

CONSOLIDATED BALANCE SHEET

June 30, 1939

ASSETS AND OTHER DEBITS		
Utility Plant		
Fixed Capital:		
In Service	$105,730,946.53	
Under Construction	9.59	$105,730,956.12
Less Reserve for Depreciation		8,793,028.12
Total Utility Plant		$96,937,928.00
Current and Accrued Assets		
Cash on Deposit with Treasurer	$3,783,608.81	
Cash Other	8,476.72	
Accounts Receivable	199,415.08	
Interfund Accounts Receivable—P.S.E.	9,556.26	
Interfund Accounts Receivable—General City and County	220.36	
Material and Supplies	18,488.45	
Material and Supplies—Salvage from Corral Hollow Pipe Line	273,850.00	
Prepayments:		
Electric Energy—Tesla Chlorinator $3,434.00		
Prepaid Electric Energy 367.65	3,801.65	
Total Current and Accrued Assets		4,297,417.33
Investments		
Amazon and Glen Park Reservoir Sites		460,925.00
Deferred Debits		
Work in Progress	$1,957.94	
Suspense Debits	25,142.08	
Uncompleted Contracts, Purchase Orders and Other Commitments	18,705.20	45,805.22
Total		$101,742,075.55

HETCH HETCHY WATER AND POWER PROJECT—CONSOLIDATED BALANCE SHEET—June 30, 1939—Continued

LIABILITIES

Long Term Debt

Bonds:		
Due July 1, 1939	$1,600,000.00	
Issue 1910, Due July 1, 1940, to July 1, 1964	25,000,000.00	
Issue 1925, Due Jan. 1, 1940, to Jan. 1, 1969	7,500,000.00	
Issue 1928, Due July 1, 1940, to July 1, 1977	22,800,000.00	
Issue 1932, Due June 1, 1940, to June 1, 1971	6,300,000.00	
Issue 1933, Due Dec. 1, 1939, to Dec. 1, 1953	2,625,000.00	
Total Long Term Debt		$65,825,000.00

Current and Accrued Liabilities

Accounts Payable:		
Warrants Payable	$34,956.24	
General Creditors	9,859.77	
Interfund Accounts Payable—P.S.E.	14,643.31	
Interfund Accounts Payable—General City and County	16,319.49	
Matured Long Term Debt:		
Matured Bonds Not Presented for Payment	8,000.00	
Matured Interest:		
Matured Coupons Not Presented for Payment	161,526.25	
Maturing July 1, 1939	1,299,000.00	
Interest Accrued, Not Due	36,382.07	
Total Current and Accrued Liabilities		1,580,687.13

Deferred Credits

Suspense Credits	$11,482.91	
Fee: Due U. S. Government, Sect. 7 of Raker Act	15,000.00	
Uncompleted Contracts, Purchase Orders and Other Commitments	18,779.49	
Total Deferred Credits		45,262.40

Reserves

Reserve for Vacations	$5,654.04	
Reserve for Sick Leave	1,533.12	
Reserve for Compensation Insurance	1,434.97	
Reserve for Retirement System	4,337.14	
Reserve of Advance for Work Not Yet Performed—S.F.W.D.	3,754.57	16,713.84
Total Liabilities and Other Credits		$67,467,663.37
Surplus (See Detail Annexed)		34,274,412.18
Total		$101,742,075.55

HETCH HETCHY WATER SUPPLY AND POWER PROJECT

CONSOLIDATED COMPARATIVE INCOME STATEMENT

June 30, 1939

UTILITY OPERATING INCOME	Fiscal Year Ended June 30, 1939			Fiscal Year Ended June 30, 1938		
	Total	Water	Power	Total	Water	Power
Operating Revenues:						
Power Sales						
Moccasin Power House						
General Consumers	$8,876,438.92	.....	$8,876,438.92	$8,717,976.55	.....	$8,717,976.55
Less Distribution Commission	6,555,309.59	.....	6,555,309.59	6,420,082.43	.....	6,420,082.43
	$2,321,129.33	.....	$2,321,129.33	$2,297,894.12	.....	$2,297,894.12
Early Intake Power House						
General Consumers	$95,936.56	.....	$95,936.56	$69,293.12	.....	$69,293.12
Construction, Operating and Miscellaneous	2,392.00	.....	2,392.00	18,882.93	.....	18,882.93
	$98,328.56	.....	$98,328.56	$88,176.05	.....	$88,176.05
Total Power Sales	$2,419,457.89	.....	$2,419,457.89	$2,386,070.17	.....	$2,386,070.17
Operating Revenue Deductions:						
Operating Expenses						
Production Expense	$214,781.73	$56,505.45	$158,276.28	$229,223.04	$56,127.49	$173,095.55
Transmission Expense	28,189.51	.....	28,189.51	31,564.58	.....	31,564.58
Administrative and General Expense	126,552.48	60,746.82	65,805.66	106,260.67	54,359.68	51,900.99
	$369,523.72	$117,252.27	$252,271.45	$367,048.29	$110,487.17	$256,561.12
Depreciation Expense	1,622,221.98	1,320,503.57	301,718.41	1,545,172.09	1,266,751.30	278,420.79
Taxes (Actually Paid)	8,141.65	4,066.19	4,075.46	7,826.26	3,919.08	3,907.18
Total Operating Revenue Deductions	$1,999,887.35	$1,441,822.03	$558,065.32	$1,920,046.64	$1,381,157.55	$538,889.09
Net Operating Revenues	$419,570.54	*$1,441,822.03*	$1,861,392.57	$466,023.53	*$1,381,157.55*	$1,847,181.08
Other Utility Operating Income	14,118.68	2,372.34	11,746.34	12,871.26	2,511.93	10,359.33
Total Utility Operating Income	$433,689.22	*$1,439,449.69*	$1,873,138.91	$478,894.79	*$1,378,645.62*	$1,857,540.41
INCOME DEDUCTIONS						
Interest on Long Term Debt	$3,053,677.43	$2,699,239.43	$354,438.00	$3,146,419.16	$2,781,434.54	$364,984.62
Valuation of Properties	15,495.64	10,563.52	4,932.12			
Total Income Deductions	$3,069,173.07	$2,709,802.95	$359,370.12	$3,146,419.16	$2,781,434.54	$364,984.62
Net Loss Transferred to Surplus	*$2,635,483.85*	*$4,149,252.64*	$1,513,768.79	*$2,667,524.37*	*$4,160,080.16*	$1,492,555.79

Italic figures denote loss and deficiency.

HETCH HETCHY WATER SUPPLY AND POWER PROJECT

CONSOLIDATED SURPLUS ACCOUNT

FOR THE TWELVE MONTHS ENDED JUNE 30, 1939

Balance, June 30, 1938			$33,674,341.27
Add:			
Net Earnings from Power Operations, Fiscal Year 1938-39		$1,513,768.79	
Depreciation Expense, Prior to June 30, 1938 (Adjustment)		11,220.77	
Contributions from San Francisco Water Department:			
For Bond Interest and Redemption	$447,025.00		
For Additions and Betterments	3,155.86		
For Operating Expenses, Water Production	131,881.98	582,062.84	
Contribution from General Fund for Bond Interest and Redemption		2,643,091.50	
Total Additions to Surplus, 1938-39			4,750,143.90
			$38,424,485.17
Deduct:			
Net Loss from Water Production, Fiscal Year 1938-39		$4,149,252.64	
Miscellaneous Deductions from Surplus		820.35	
Total Deductions from Surplus, 1938-39			4,150,072.99
			$34,274,412.18

Composition of Surplus, Cumulative to June 30, 1939

Additions to Surplus:			
Net earnings from Power Operations, August 16, 1925, to June 30, 1939		$19,144,323.06	
Contributions from San Francisco Water Department, July 1, 1935, to June 30, 1939:			
For Bond Interest and Redemption	$1,788,100.00		
For Additions and Betterments	25,113.88		
For Operating Expenses—Water Production	395,208.22	2,208,422.10	
Contribution from General Fund for Bond Interest and Redemption		30,109,732.64	
Interest earned from Loans to Other Funds		77,801.23	
Bond Premiums, 1910-1932 Hetch Hetchy Bond Funds		1,240,169.26	
Bond Premium, 1933 Hetch Hetchy Dam Bond Fund		137,438.55	
Federal Grants on Public Works Projects		1,211,450.00	
Miscellaneous additions to Surplus		3,333.86	
Total Additions to Surplus			$54,132,670.70
Deductions from Surplus:			
Net loss from Water Production, July 1, 1935, to June 30, 1939		$16,318,405.10	
Bond Discount, 1910 Hetch Hetchy Bond Fund		737,956.39	
Cost of San Lorenzo Pipe Line transferred to San Francisco Water Dept.		1,063,840.76	
Retirement of Corral Hollow Pipe Line		1,333,375.00	
California Railroad Commission evaluation of P. G. & E. and G. W. P. Co.'s properties 1924-29		392,006.43	
Loss on South Fork Road, during winter 1937-38		10,000.00	
Miscellaneous deductions from Surplus		2,674.84	
Total Deductions from Surplus			$19,858,258.52
Surplus, June 30, 1939			$34,274,412.18

HETCH HETCHY WATER SUPPLY PROJECT

STATEMENT OF ANNUAL BOND REDEMPTION BY FISCAL YEARS

(Cash Basis)

Redemption Dates	July 1	July 1	January 1	July 1	June 1	December 1	
	Issue of						
Rate of Interest	1909	1910	1925	1928	1932	1933	Total
2¾%	.....	.....	.....	.....	$324,000.00	.....	$324,000.00
3%	.....	.....	.....	.....	194,000.00	.....	194,000.00
4%	.....	.....	.....	.....	280,000.00	$3,500,000.00	3,780,000.00
4½%	$600,000.00	$45,000,000.00	.....	$24,000,000.00	143,000.00	.....	69,743,000.00
5%	.....	.....	$10,000,000.00	.....	1,234,000.00	.....	11,234,000.00
5¾%	.....	.....	.....	.....	4,325,000.00	.....	4,325,000.00
Total Issued	$600,000.00	$45,000,000.00	$10,000,000.00	$24,000,000.00	$6,500,000.00	$3,500,000.00	$89,600,000.00
Bonds Retired as of July 1, 1938...	$600,000.00	$19,000,000.00	$2,250,000.00	$600,000.00	.....	$700,000.00	$23,150,000.00
Annual Redemption Fiscal Year							
1938-39		$1,000,000.00	$250,000.00	$600,000.00	$200,000.00	$175,000.00	$2,225,000.00
1939-40		1,000,000.00	250,000.00	600,000.00	200,000.00	175,000.00	2,225,000.00
1940-41		1,000,000.00	250,000.00	600,000.00	200,000.00	175,000.00	2,225,000.00
1941-42		1,000,000.00	250,000.00	600,000.00	200,000.00	175,000.00	2,225,000.00
1942-43		1,000,000.00	250,000.00	600,000.00	200,000.00	175,000.00	2,225,000.00
1943-44		1,000,000.00	250,000.00	600,000.00	200,000.00	175,000.00	2,225,000.00
1944-45		1,000,000.00	250,000.00	600,000.00	200,000.00	175,000.00	2,225,000.00
1945-46		1,000,000.00	250,000.00	600,000.00	200,000.00	175,000.00	2,225,000.00
1946-47		1,000,000.00	250,000.00	600,000.00	200,000.00	175,000.00	2,225,000.00
1947-48		1,000,000.00	250,000.00	600,000.00	200,000.00	175,000.00	2,225,000.00

1948-49	1,000,000.00	250,000.00	600,000.00	200,000.00	175,000.00	2,225,000.00
1949-50	1,000,000.00	250,000.00	600,000.00	200,000.00	175,000.00	2,225,000.00
1950-51	1,000,000.00	250,000.00	600,000.00	200,000.00	175,000.00	2,225,000.00
1951-52	1,000,000.00	250,000.00	600,000.00	200,000.00	175,000.00	2,225,000.00
1952-53	1,000,000.00	250,000.00	600,000.00	200,000.00	175,000.00	2,225,000.00
1953-54	1,000,000.00	250,000.00	600,000.00	200,000.00	175,000.00	2,225,000.00
1954-55	1,000,000.00	250,000.00	600,000.00	200,000.00	.....	2,050,000.00
1955-56	1,000,000.00	250,000.00	600,000.00	200,000.00	.....	2,050,000.00
1956-57	1,000,000.00	250,000.00	600,000.00	200,000.00	.....	2,050,000.00
1957-58	1,000,000.00	250,000.00	600,000.00	200,000.00	.....	2,050,000.00
1958-59	1,000,000.00	250,000.00	600,000.00	200,000.00	.....	2,050,000.00
1959-60	1,000,000.00	250,000.00	600,000.00	200,000.00	.....	2,050,000.00
1960-61	1,000,000.00	250,000.00	600,000.00	200,000.00	.....	2,050,000.00
1961-62	1,000,000.00	250,000.00	600,000.00	200,000.00	.....	2,050,000.00
1962-63	1,000,000.00	250,000.00	600,000.00	200,000.00	.....	2,050,000.00
1963-64	1,000,000.00	250,000.00	600,000.00	200,000.00	.....	2,050,000.00
1964-65	.....	250,000.00	600,000.00	200,000.00	.....	1,050,000.00
1965-66	.....	250,000.00	600,000.00	200,000.00	.....	1,050,000.00
1966-67	.....	250,000.00	600,000.00	200,000.00	.....	1,050,000.00
1967-68	.....	250,000.00	600,000.00	200,000.00	.....	1,050,000.00
1968-69	.....	250,000.00	600,000.00	200,000.00	.....	1,050,000.00
1969-70	.....	.....	600,000.00	200,000.00	.....	800,000.00
1970-71	.....	.....	600,000.00	100,000.00	.....	700,000.00
1971-72	.....	.....	600,000.00	.....	.....	600,000.00
1972-73	.....	.....	600,000.00	.....	.....	600,000.00
1973-74	.....	.....	600,000.00	.....	.....	600,000.00
1974-75	.....	.....	600,000.00	.....	.....	600,000.00
1975-76	.....	.....	600,000.00	.....	.....	600,000.00
1976-77	.....	.....	600,000.00	.....	.....	600,000.00
Totals	$600,000.00	$45,000,000.00	$10,000,000.00	$24,000,000.00	$6,500,000.00	$3,500,000.00	$89,600,000.00

HETCH HETCHY WATER SUPPLY PROJECT

STATEMENT OF ANNUAL BOND INTEREST BY FISCAL YEARS

(Cash Basis)

Interest Maturity Dates	July 1 January 1	July 1 January 1	July 1 January 1	July 1 January 1	December 1 June 1	December 1 June 1	
	Issue of						
Rate of Interest	1909	1910	1925	1928	1932	1933	Total
2¾%	.....	.....	.....	.....	$324,000.00	.....	$324,000.00
3%	.....	.....	.....	.....	194,000.00	.....	194,000.00
4%	.....	.....	.....	.....	280,000.00	$3,500,000.00	3,780,000.00
4½%	$600,000.00	$45,000,000.00	.....	$24,000,000.00	143,000.00	.....	69,743,000.00
5%	.....	.....	$10,000,000.00	.....	1,234,000.00	.....	11,234,000.00
5¾%	.....	.....	.....	.....	4,325,000.00	.....	4,325,000.00
Total issues	$600,000.00	$45,000,000.00	$10,000,000.00	$24,000,000.00	$6,500,000.00	$3,500,000.00	$89,600,000.00
Bond Interest Expense as of July 1, 1938	$72,900.00	$28,277,194.97	$5,149,277.69	$8,349,055.96	$1,922,897.57	$375,647.23	$44,146,973.42
Interest Fiscal Year							
1938-39		$1,170,000.00	$381,250.00	$1,053,000.00	$342,752.50	$108,500.00	$3,055,502.50
1939-40		1,125,000.00	368,750.00	1,026,000.00	331,585.00	101,500.00	2,952,835.00
1940-41		1,080,000.00	356,250.00	999,000.00	320,417.50	94,500.00	2,850,167.50
1941-42		1,035,000.00	343,750.00	972,000.00	309,440.00	87,500.00	2,747,690.00
1942-43		990,000.00	331,250.00	945,000.00	298,462.50	80,500.00	2,645,212.50
1943-44		945,000.00	318,750.00	918,000.00	287,485.00	73,500.00	2,542,735.00
1944-45		900,000.00	306,250.00	891,000.00	276,507.50	66,500.00	2,440,257.50
1945-46		855,000.00	293,750.00	864,000.00	265,530.00	59,500.00	2,337,780.00
1946-47		810,000.00	281,250.00	837,000.00	254,712.50	52,500.00	2,235,462.50
1947-48		765,000.00	268,750.00	810,000.00	243,895.00	45,500.00	2,133,145.00

1948-49	720,000.00	256,250.00	783,000.00	233,077.50	38,500.00	2,030,827.50
1949-50	675,000.00	243,750.00	756,000.00	222,260.00	31,500.00	1,928,510.00
1950-51	630,000.00	231,250.00	729,000.00	211,442.50	24,500.00	1,826,192.50
1951-52	585,000.00	218,750.00	702,000.00	200,625.00	17,500.00	1,723,875.00
1952-53	540,000.00	206,250.00	675,000.00	189,872.50	10,500.00	1,621,622.50
1953-54	495,000.00	193,750.00	648,000.00	179,120.00	3,500.00	1,519,370.00
1954-55	450,000.00	181,250.00	621,000.00	168,367.50	.....	1,420,617.50
1955-56	405,000.00	168,750.00	594,000.00	157,615.00	.....	1,325,365.00
1956-57	360,000.00	156,250.00	567,000.00	146,862.50	.....	1,230,112.50
1957-58	315,000.00	143,750.00	540,000.00	136,110.00	.....	1,134,860.00
1958-59	270,000.00	131,250.00	513,000.00	125,360.00	.....	1,039,610.00
1959-60	225,000.00	118,750.00	486,000.00	114,610.00	.....	944,360.00
1960-61	180,000.00	106,250.00	459,000.00	103,860.00	.....	849,110.00
1961-62	135,000.00	93,750.00	432,000.00	93,110.00	.....	753,860.00
1962-63	90,000.00	81,250,00	405,000.00	82,360.00	.....	658,610.00
1963-64	45,000.00	68,750.00	378,000.00	71,610.00	.....	563,360.00
1964-65	.....	56,250.00	351,000.00	61,377.50	.....	468,627.50
1965-66	.....	43,750.00	324,000.00	51,895.00	.....	419,645.00
1966-67	.....	31,250.00	297,000.00	42,412.50	.....	370,662.50
1967-68	.....	18,750.00	270,000.00	32,930.00	.....	321,680.00
1968-69	.....	6,250.00	243,000.00	23,447.50	.....	272,697.50
1969-70	.....	.....	216,000.00	13,965.00	.....	229,965.00
1970-71	.....	.....	189,000.00	4,482.50	.....	193,482.50
1971-72	.....	.....	162,000.00	.....	.....	162,000.00
1972-73	.....	.....	135,000.00	.....	.....	135,000.00
1973-74	.....	.....	108,000.00	.....	.....	108,000.00
1974-75	.....	.....	81,000.00	.....	.....	81,000.00
1975-76	.....	.....	54,000.00	.....	.....	54,000.00
1976-77	.....	.....	27,000.00	.....	.....	27,000.00
Totals	$72,900.00	$44,072,194.97	$11,155,527.69	$29,409,055.96	$7,520,457.57	$1,271,647.23	$93,501,783.42

HETCH HETCHY WATER SUPPLY

ELECTRIC POWER BUREAU

AUTOMOTIVE EQUIPMENT OPERATIONS—COSTS AND CREDITS

TWENTY-ONE MONTHS PERIOD, OCTOBER 1, 1937, TO JUNE 30, 1939

Acct. No.	Car No.	Make and Model	License No.	Mileage	Cost of Operation	Cost per Mile	Operating Credits	Excess of Costs Over Credits	Excess of Credits Over Costs	Revised Rate July 1, 1939
7050	0	1929 Ford Coupe	20742	6,219	$104.70	$.01684	$255.21	.....	$150.51	$0.025
7052	1	1937 Dodge Coupe	20160	28,068	637.52	.02271	1,139.85	.....	502.33	.025
7052	2	1937 Graham Coupe B. M.	20161	32,986	660.40	.02002	1,369.62	.....	709.22	.025
7051	3	1936 Chevrolet Carryall	20163	21,679	1,316.64	.06073	1,346.98	.....	30.34	.07
7051	4	1936 Chevrolet Carryall	20162	17,241	1,190.31	.06904	1,037.00	$153.31	.....	.08
7051	5	1937 International Pickup	20164	11,350	835.55	.07362	760.16	75.39	.....	.08
7051	6	1933 Dodge Truck	20165	6,698	525.11	.07840	550.84	.....	25.73	.08
7051	7	1937 International Pickup	20166	15,218	548.95	.03607	731.02	.....	182.07	.03
7051	8	1933 Plymouth Coach	20167	2,421	129.49	.05349	111.26	18.23	.....	.06
7051	9	1937 Chevrolet Sport Sedan	20168	22,126	674.31	.03048	816.05	.....	141.74	.025
7051	10	1937 Ford Sedan	23039	21,050	761.62	.03618	763.75	.....	2.13	.025
7050	11	1937 Ford Pickup ½ Ton	20169	45,398	977.52	.02153	1,811.22	.....	833.70	.025
7050	12	1938 Ford Coupe	25173	50,617	822.91	.01626	1,856.06	.....	1,033.15	.025
7050	13	1935 Ford Pickup ½ Ton	20743	23,865	539.02	.02259	958.75	.....	419.73	.025
7051	14	1935 Ford Pickup ½ Ton	20170	5,380	285.87	.05313	269.41	16.46	.....	.05
7052	15	1938 Packard Sedan	32286	12,894	453.22	.03515	675.54	.....	222.32	.04
7050	16	1938 Packard Sedan	20700	16,512	613.35	.03715	836.55	.....	223.20	.04
7050	17	1937 Ford Truck	20744	18,023	1,047.66	.05813	1,383.61	.....	335.95	.06
7051	18	1937 International Pickup	20171	14,366	772.21	.05375	861.90	.....	89.69	.06
7051	19	White Railroad Bus		2,653	343.87	.12962	1,034.03	.....	690.16	.15
7051	21	White Railroad Bus		330	21.68	.06569	38.94	.....	17.26	.10

7051	29	1922 Buda Railway Speeder		1,072	98.10	.09151	55.71	42.39	.....	.10
7051	30	1922 Buda Railway Speeder		269	35.58	.13227	15.14	20.44	.....	.10
7050	31	1937 Ford Coupe	20745	35,770	540.85	.01512	1,329.53	.....	788.68	.025
7051	103	1920 White Truck ¾ Ton	20172	303	90.24	.29782	318.42	.....	228.18	.30
7051	106	1920 White Truck ¾ Ton	20173	616	120.62	.19581	53.76	66.86	.....	.20
7050	108	1920 White Truck 5 Ton	20746	2,402	418.71	.17431	714.00	.....	295.29	.18
7051	109	1918 White ¾ Ton Stake Truck	20174	1,659	339.05	.20437	294.16	44.89	.....	.30
7051	112	1938 Ford 1½ Ton Dump Truck	25720	8,728	677.40	.07761	1,077.50	.....	400.10	.07
7051	114	1937 Chevrolet Dump Truck	20175	7,819	607.74	.07773	788.85	.....	181.11	.07
7050	120	1924 White Truck 2 Ton	20747	2,290	474.11	.20703	415.70	58.41	.....	.22
7051	121	1924 White Truck 2 Ton Winch	20176	3,153	645.43	.20470	563.75	81.68	.....	.22
7050	160	1931 Ford Touring	20751	4,015	146.35	.03645	159.85	.....	13.50	Sold
7050	200	1936 F.W.D. Truck 4-5 Ton	20177	7,979	1,255.51	.15735	1,642.01	.....	386.50	.16
7052	201	1938 F.W.D. 2½-3 Ton Line Truck	25665	7,001	790.24	.11288	1,624.73	.....	834.49	.12
7052	202	1936 F.W.D. 1½ Ton Line Truck	20178	8,271	1,471.77	.17794	1,329.33	142.44	.....	.18
7052	206	1933 Dodge Truck 1½ Ton	20179	3,678	338.15	.09194	392.50	.....	54.35	.10
7050	208	1935 Ford Pickup ½ Ton	20752	22,932	495.13	.02159	880.44	.....	385.31	.025
7050	209	1935 Ford Sedan	20753	13,722	840.10	.06122	518.09	322.01	.....	.025
7051	1160	Caterpillar Tractor		1,024 hrs.	793.64	.77504 hr.	1,480.81	.....	687.17	.75 hr.
7051	1170	Plymouth 8 Ton Locomotive		3,908	1,407.93	.36027	1,396.17	11.76	.....	.36
7051	1171	Plymouth 20 Ton Locomotive		3,410	2,873.91	.84279	1,384.55	1,489.36	.....	.85
7051	1172	P. & H. Shovel		361½ hrs.	745.35	2.06183 hrs.	808.80	.....	63.45	2.10 hr.
7051	1173	Rotary Snow Plow		305	654.24	2.14505	746.40	.....	92.16	2.15
7051	1174	Caterpillar Tractor		967 hrs.	1,767.14	1.82745 hrs.	1,752.00	15.14	.....	1.50 hr.
7051	1176	Plymouth Locomotive		382	535.49	1.40181	203.29	332.20	.....	1.50
					$31,424.69		$38,553.24	$2,890.97	$10,019.52	
							31,424.69		2,890.97	
							$7,128.55		$7,128.55	

ELECTRIC POWER BUREAU
HETCH HETCHY WATER SUPPLY
AUTOMOTIVE EQUIPMENT OPERATIONS
FOR MONTH OF JUNE, 1939, AND FOR TWENTY-ONE MONTHS PERIOD ENDING JUNE 30, 1939

Acct. No.	Car No.	Make and Model	License	June, 1939 Gallons of Gasoline	June, 1939 Quarts of Oil	June, 1939 Repairs and Service	June, 1939 Mileage	June, 1939 Miles per Gallon	Oct. 1, 1937, to June 30, 1939—Cumulative Gallons of Gasoline	Cumulative Quarts of Oil	Cumulative Repairs and Service	Cumulative Mileage	Cumulative Miles per Gallon
7050	0	1929 Ford Coupe	20742	10	..	$0.61	36	4	421	27	$32.20	6,219	15
7052	1	1937 Dodge Coupe	20160	126	11	17.07	2,206	18	1,716	94	337.09	28,068	16
7052	2	1937 Graham Coupe B. M.	20161	83	8	15.59	1,090	13	2,206	229	288.60	32,986	15
7051	3	1936 Chevrolet Carryall	20163	147	6	40.88	1,601	11	1,859	128	881.51	21,679	12
7051	4	1936 Chevrolet Carryall	20162	105	1	98.62	1,125	11	1,673	95	796.38	17,241	10
7051	5	1937 International Pickup	20164	88	..	11.53	695	8	1,580	50	529.08	11,350	7
7051	6	1933 Dodge Truck	20165	52	4	20.98	372	7	879	93	370.85	6,698	8
7051	7	1937 International Pickup	20166	92	2	2.53	934	10	1,403	51	269.98	15,218	11
7051	8	1933 Plymouth Coach	20167	10	..	.14	86	9	386	18	53.45	2,421	6
7051	9	1937 Chevrolet Sport Sedan	20168	98	3	31.39	1,385	14	1,601	38	385.55	22,126	14
7051	10	1937 Ford Sedan	23039	91	5	33.53	1,380	15	1,517	53	516.29	21,050	14
7050	11	1937 Ford Pickup ½ Ton	20169	159	28	10.59	2,370	15	3,043	356	450.32	45,398	15
7050	12	1938 Ford Coupe	25173	128	23	12.76	2,280	18	3,035	273	272.87	50,617	17
7050	13	1936 Ford Pickup ½ Ton	20743	124	2	1.92	1,385	11	2,075	61	256.96	23,865	12
7051	14	1935 Ford Pickup ½ Ton	20170	35	3	5.61	337	10	499	37	183.66	5,380	11
7052	15	1938 Packard Super-8 Sedan	32286	85	4	25.30	1,543	18	1,225	41	142.30	12,894	11
7050	16	1938 Packard Super-8 Sedan	32283	212	17	143.77	2,807	13	1,632	87	223.40	16,512	10
7050	17	1937 Ford Truck	20744	245	35	10.69	1,675	7	2,535	246	688.95	18,023	7
7051	18	1937 International Pickup	20171	112	2	29.39	1,300	12	1,425	38	488.06	14,366	10
7051	19	White Railroad Bus		50	8	.15	492	10	538	37	261.40	2,653	5

7051	21	White Railroad Bus.....		...	..	....	....	..	94	3	8.15	330	4
7051	29	1922 Buda Railway Speeder.....		...	..	....	....	..	140	26	69.80	1,072	8
7051	30	1922 Buda Railway Speeder.....		2	1	.03	6	3	37	12	24.35	269	7
7050	31	1937 Ford Coupe	20745	161	19	7.69	2,299	14	2,445	141	197.20	36,770	15
7051	103	1920 White Truck ¾ Ton.....	20172	40	5	.74	108	3	105	15	59.29	303	3
7051	106	1920 White Truck ¾ Ton.....	20173	..	..	....	....	..	206	16	81.67	616	3
7050	108	1920 White Truck 5 Ton.....	20746	..	..	3.00	....	..	1,115	85	166.95	2,402	2
7051	109	1918 White ¾ Ton Stake Truck....	20174	81	19	.98	252	3	573	125	306.41	1,659	3
7051	112	1938 Ford 1½ Ton Dump Truck....	25720	121	6	11.58	802	7	1,617	103	382.66	8,728	5
7051	114	1937 Chevrolet Dump Truck.....	20175	46	1	59.80	370	8	1,370	61	356.40	7,819	6
7050	120	1924 White Truck 2 Ton.....	20747	21	3	14.77	120	6	735	50	366.42	2,290	3
7051	121	1924 White Truck 2 Ton Winch....	20176	71	4	6.70	311	4	1,006	48	436.60	3,153	3
7050	151	1929 Dodge Sedan	20749	..	..	....	....	..	705	85	35.00	9,024	13
7050	160	1931 Ford Touring	20751	..	..	....	....	..	245	22	113.76	4,015	16
7051	200	1936 F.W.D. Truck 4-5 Ton.....	20177	100	7	14.06	367	4	2,263	106	786.05	7,979	4
7052	201	1938 F.W.D. 2½-3 Ton Line Truck.	25665	151	14	1.70	627	4	1,525	145	475.85	7,001	5
7052	202	1936 F.W.D. 1½ Ton Line Truck...	20178	151	2	114.89	556	4	2,138	106	1,033.26	8,271	4
7052	206	1933 Dodge Truck 1½ Ton.....	20179	7	..	.14	37	5	511	35	246.21	3,678	7
7050	208	1935 Ford Pickup ½ Ton.....	20752	126	2	42.29	1,576	13	1,819	81	248.48	22,932	13
7050	209	1935 Ford Sedan	20753	80	7	10.30	1,565	20	1,304	152	494.35	13,722	11
7051	1160	Caterpillar Tractor		70	..	5.81	27 hrs.		2,802	396	218.85	1,024¼ hrs.	
7051	1170	Plymouth 8 Ton Locomotive...		31	..	22.97	95	3	1,672	99	938.68	3,908	2
7051	1171	Plymouth 20 Ton Locomotive..		...	..	....	....	..	3,790	415	1,999.60	3,410	1
7051	1172	P. & H. Shovel.....		...	..	....	....	..	865	36	559.70	361½ hrs.	
7051	1173	Rotary Snow Plow.....		...	..	....	....	..	390	46	446.86	305	1
7051	1174	Caterpillar Tractor		..	..	296.02	....	..	2,300	410	1,298.85	967 hrs.	
7051	1176	Plymouth Locomotive		...	..	....	....	..	251	20	344.12	382	2
	S&BL	1937 Ford Sedan	23002	50	3	1.28	622	12	1,278	99	192.57	15,312	12
	S&BL	1936 Ford Sedan	23303	83	11	1.28	732	9	1,451	149	196.62	14,412	10

ELECTRIC POWER BUREAU

HETCH HETCHY POWER OPERATION
STREET LIGHTING
GAS AND ELECTRIC POWER SUPPLY
MASS TRANSPORTATION
MUNICIPAL RAILWAY ENGINEERING

PAUL J. OST

Manager and Chief Engineer

PAUL J. OST
Chief Electrical Engineer

As indicated by the heading of this section, the Electric Power Bureau is charged with a number of duties. In addition to regular assignments, special assignments are given the Bureau from time to time when the necessity arises. Each division of the work will be discussed separately.

The men directly responsible for the smooth and satisfactory operation of the various departments of the Electric Power Bureau are Mr. Thornton Easler, electrical engineer in charge at Hetch Hetchy and located at Moccasin; Mr. L. M. Perrin, electrical engineer in charge of general engineering and problems in connection with mass transportation; Mr. A. O. Olson, electrical engineer in charge of street lighting and gas and electric power supply; Mr. L. V. Degnan, office engineer, in charge of railway engineering; Mr. G. S. Warren, in charge of accounting. Mention must also be made of the efficient service rendered by Mrs. Ethel C. Cullen, secretary. All of these people have been associated with the work over a period of years and have given unstintingly of time and energy for the success of the Bureau.

HETCH HETCHY POWER OPERATION

As indicated in last year's report, the rainfall was exceptionally heavy, producing an extended runoff which in the case of the Hetch Hetchy Reservoir, caused spill until August 14, and at Lake Eleanor until July 15. This year conditions have been very different as the precipitation during the season has been below normal and only two-thirds of last year.

This year Lake Eleanor stopped spilling on June 3 and the inflow to Hetch Hetchy Reservoir ceased to equal usage on June 18. Thus the Hetch Hetchy

Reservoir not only failed to fill as it did the preceding year, but also instead of being able to run on stream flow to August 14, it was necessary to begin to draw on stored water June 17.

The amount of water in storage as of June 30, 1938, and June 30, 1939, is shown in the tabulation below:

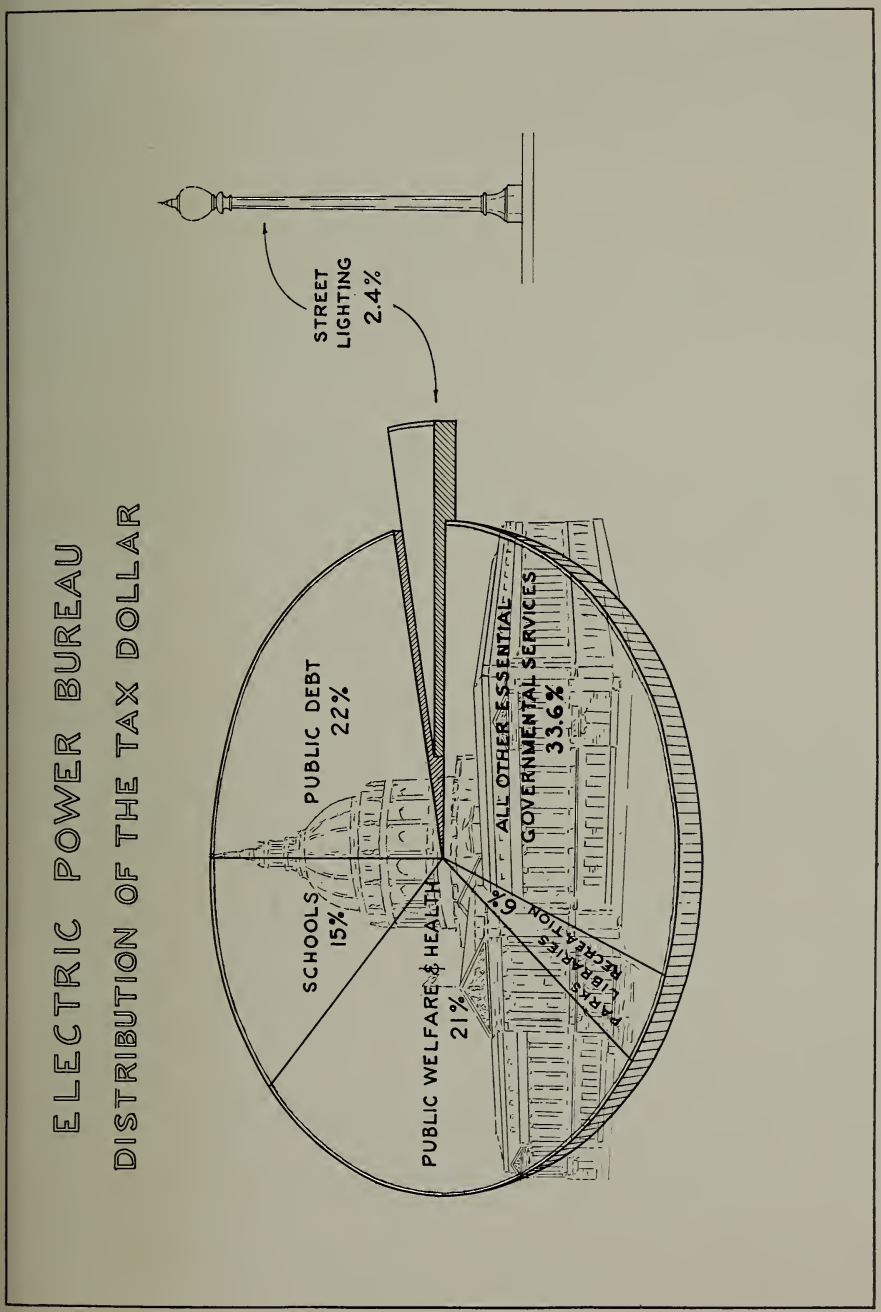
	Acre Feet	
	1938	1939
Hetch Hetchy Reservoir	348,015	297,545
Lake Eleanor	26,694	27,531
Priest Reservoir	837	678
Total	375,546	325,754
		—13.2%

The injunction granted Meridian, Ltd., in 1936, which limited the use of the enlarged Hetch Hetchy Reservoir, caused the Commissioners and the Manager of Utilities to be cited for contempt of court in utilizing the full capacity of the reservoir in the year 1937-38, even though the amount of water available was considerably above average and ample to meet all requirements of Meridian, Ltd. This suit was appealed in 1937 but at the time of the runoff this year, judgment had not yet been rendered. This year Meridian, Ltd., insisted on the release of all runoff above that required to fill the Hetch Hetchy Reservoir to the original height of the O'Shaughnessy Dam. Consequently some 50,000 acre feet of water was needlessly released this spring. The evident shortage of water was alarming to the irrigationists so an agreement was reached between Meridian, Ltd., the Turlock and Modesto Irrigation Districts and the City of San Francisco, which stopped this waste and allowed water to be stored above the original height of the O'Shaughnessy Dam for the benefit of all concerned. Later the injunction was dissolved and there should be no further prohibition as to efficient use of the Hetch Hetchy Reservoir.

By this agreement, the City was bound to release a large percentage of the water stored for the benefit of the irrigation districts and Meridian, Ltd. Conditions brought about by the agreement were, however, to the advantage of everyone concerned and are likely to result in the City having the benefits from approximately 100,000 acre feet more water than if the agreement had not been made.

Early Intake Power House:

The Early Intake Plant was originally built to supply construction power at O'Shaughnessy Dam and to the aqueduct tunnels. One circuit goes east to O'Shaughnessy Dam and a second circuit west to Moccasin Power House. Originally these two circuits were tied together with disconnecting switches at the Intake Power House. Troubles incident to lightning and storms made it desirable to put oil circuit breakers in each of these lines. As the original design of the power house did not permit of housing these within the building, a detached switch house was installed about 1919. The equipment used was the best available at the time and served satisfactorily for many years. After 20 years' service the switches began to give trouble and repair parts were not now readily obtainable. During the year all 22,000 volt switching equipment has been entirely replaced with more modern devices released from the Seco Substation used to furnish


ELECTRIC POWER BUREAU
DISTRIBUTION OF THE TAX DOLLAR
STREET LIGHTING 2.4%
PUBLIC DEBT 22%
SCHOOLS 15%
PUBLIC WELFARE & HEALTH 21%
PARKS LIBRARIES RECREATION 6%
ALL OTHER ESSENTIAL GOVERNMENTAL SERVICES 33.6%

power for the building of the Coast Range Tunnels. The new installation comprises two outdoor type oil circuit breakers, two motor operators, a steel bus structure, gang operated disconnecting switches, lightning arrestors, and control panels, all of which came from Seco. To provide space for this apparatus it was necessary to construct a fill by the side of the Tuolumne River. After the completion of the new work the old switch house was taken down, providing much needed space immediately outside the power house.

Early Intake turbines take water from Cherry River through an aqueduct made up of tunnels, concrete ditches, pipes and some flume. As the ditch is on a heavily wooded and steep hillside, troubles with leaves and debris blowing into the aqueduct are not infrequent. This material stops the grizzlies at the Early Intake Power House forebay. During a wind storm it was necessary to employ men with rakes to clear the grizzlies, or shut down the power house. This condition was corrected during the year by the installation of a motor driven rake at the forebay. The rake can be started and stopped from the power house and is automatic in operation.

The houses used by the employees at Early Intake were temporary structures built in 1918, and have never been satisfactory for permanent employees. Plans and specifications are being drawn for the construction of four houses, septic tank and water supply. Part of the cost will be borne by the depreciation fund and the remainder by the 1932 Bond Fund.

Moccasin Power House:

Outside of replacements, no major work has been undertaken at the Moccasin Power House during the year. The plant continues to function efficiently. The original voltage regulators installed when the plant was built in 1925, are being replaced with new rheostatic type regulators. Difficulty has been experienced in working out the regulator system providing all the features desirable and at the same time make maximum use of equipment already in the power house. The new regulators have been designed to permit making the change without interrupting the continuous delivery of power. Contract for the equipment has been awarded to the Westinghouse Electric and Manufacturing Company who furnished the original regulators and delivery will be made early in the succeeding year.

Transmission Line:

Last year it was reported that some of the insulators installed in 1925 had reached a point where it was necessary to replace them. Almost all of the insulators giving trouble are those at points of heavy mechanical loading. Insulator tests made during the year indicate continuing deterioration. During the year 6,543 heavy duty type insulators were replaced; of these 5,183 were at dead ends and 1,360 were at points of extra heavy suspension loading. The work has been carried on almost exclusively while the line was in service. This has greatly expedited the work. Work on a de-energized line has to be done at night resulting in inefficiency and subjecting the men to greater hazards than when working on live conductors.

The Bureau has made many improvements on the standard tools used for this work and new tools have been devised for installing armor rods on aluminum conductor where vibration prior to the installation of dampers has caused the breakage of strands. H. A. Crowley, transmission line patrolman, is in no small way responsible for the success of the hot line work.

A number of poles, cross arms and fittings were replaced on the 22,000 volt transmission and telephone lines.

The original sectionalizing switches installed in the Moccasin-Newark line have given trouble due to burning of the contact between the jaw and the blade. Many expedients were tried to overcome this difficulty but without success. During the past year all the original blades and jaws were replaced with a type manufactured by another firm. So far these show no signs of difficulty and the operation of the switches is very much easier than heretofore.

Power Production:

The output of the Moccasin and Early Intake Power Houses again increased due to favorable water conditions. A majority of the increased output of the Early Intake plant was occasioned by the fact that over a long period it was possible because of the plentiful supply to discharge the water from the plant directly into the Tuolumne River rather than deliver it into the aqueduct leading to Moccasin. This method of operation increases the effective head on the turbines at Early Intake by about 25%, resulting in a higher power output. The following table shows the comparative results of last year and this year.

REPORT OF POWER PRODUCTION

	Kwh. 1938-39	Kwh. 1937-38	% Change
Generated:			
Moccasin Power House	504,483,000	499,059,000	+ 1.08
Early Intake Power House	27,122,600	23,245,800	+16.69
Total Available	531,605,600	522,304,800	+ 1.79
Disposition:			
Consigned to P. G. & E. Co.	495,388,800	485,169,600	+ 2.10
Used at Power Houses	770,600	678,877	+13.51
Used at Mountain and Foothill Divisions	1,150,183	3,605,094	—68.10
Losses and Unaccounted for	34,296,017	32,851,229	+ 4.37
Total Energy	531,605,600	522,304,880	+ 1.79

Final completion of the work of enlarging O'Shaughnessy Dam accounts for the large decrease in the amount of energy used on the Mountain and Foothill Divisions.

Power Disposal:

As stated in last year's report, the suit brought by the U. S. Government, because of alleged violation of Section 6 of the Raker Act, was decided in favor of the Government on June 28, 1938 by Judge Michael Roche. He gave the City 6 months, or until December 28, 1938, to fully comply with his interpretation of

NEW LIGHTING ON FIRST STREET

Day and night views of new double bracket electroliers along First Street from bridge terminal at Mission Street to Market Street.

the Raker Act. City Attorney O'Toole appealed the case and when December 28 approached, Judge Roche extended the stay of execution for 30 days and later for 60 days, and at a later date the Appellate Court granted a further stay until after their decision had been rendered. As of June 30, 1939, this higher court had reached no conclusion.

Late in the fall of 1938, it was decided to again present a plan of power disposal to the voters, and Plan 8 was drawn up. This was very similar to Plan 7 which was voted down in March, 1937, the major difference being that Plan 8 included the purchase of what was originally the Sierra and San Francisco System in San Francisco, and also the fringe territory in San Mateo County that could not be separated from the San Francisco property without heavy severance damages. The estimates of revenue, cost of operation, and return, were made on the basis of the Company's 1937 business. Plan 8 contemplated the construction of the Red Mountain Bar Power House, service and headquarters facilities in San Francisco, and the purchase of the distribution system of the Pacific Gas and Electric Company in San Francisco, excluding the Company's steam power plants and their associated tie lines. The Hetch Hetchy energy brought into San Francisco was to be supplemented with sufficient purchased company capacity and energy to meet San Francisco load requirements. Under this plan a handsome return would have come from the municipal distribution of power.

Plan 7 would have authorized the issuance of $50,000,000 in revenue bonds. Recent California Railroad Commission valuations of other properties made for similar purposes, carried higher percentages for intangibles than were included in the estimates on which Plan 7 was based; therefore the permissible issue of revenue bonds under Plan 8 was increased to $55,000,000. The proposition appeared on a special ballot along with a salary standardization measure, on May 19, 1939. This combination of questions was not a happy one and together with a vigorous campaign of opposition resulted in a vote of 50,283 in favor of the proposition and 123,118 opposed. Following the election the Board of Supervisors made a formal request on the City's representatives in Congress to secure an amendment of the Raker Act modifying the section dealing with the disposal of Hetch Hetchy electric power. After the suggested amendment of the Act, the legality of the City's present contract with the Pacific Gas and Electric Company for disposal of Hetch Hetchy energy could not be questioned. At the end of the year, this proposed amendment was still pending.

Valuation:

During the year an inventory and valuation of the Hetch Hetchy Power Project was completed, showing the property as of June 30, 1938. The cost of the fixed capital including construction work in progress, was $12,484,771.00. Accrued depreciation was $3,442,549.00. The depreciable parts of the property have a value of $11,565,587.00. At an average annual rate of depreciation of 2.29%, $278,420.79 must be set aside annually to provide for replacements.

EXHIBIT A

HETCH HETCHY POWER DIVISION

BALANCE SHEET—JUNE 30, 1939

ASSETS

PROPERTIES:

This is the proportion of the cost to build the Hetch Hetchy Project allocated to the production and transmission of electrical energy. See Schedule No. 1 for detail..... $12,506,226.44

It is estimated that the above properties have depreciated in value to the extent of (see Schedule No. 1 and No. 1A for detail) 3,692,789.31

Present book value of physical properties..... $8,813,477.13

CASH:

Cash deposited with the Treasurer of the City and County of San Francisco amounts in total to $249,435.93. Of this, $42,-063.67 is held for current operating expenses and $207,372.26 is deposited in the Reconstruction and Replacement Fund for current replacements. See Schedule No. 2..... 249,435.93

OTHER CASH:

We have $3,000.00 in Revolving Funds available for the payment of expense accounts and other small items by the Chief Engineer and Manager. Of the total, $1,100.39 is represented by Reimbursements in transit and $1,889.61 by cash deposited in banks. There is also in transit to the Treasurer $476.72 which has been deducted from employees on the payrolls for the period ending June 30, 1939, for meals, cottage rent, etc..... 3,476.72

ACCOUNTS RECEIVABLE:

The amount due the Hetch Hetchy Power Division for electric energy furnished during the month of June, 1939, of the total $199,028.27 is due from the Pacific Gas & Electric Co., and the balance of $370.16 from miscellaneous consumers.. 199,398.43

INTERFUND ACCOUNTS RECEIVABLE:

This is the amount due the Hetch Hetchy Power Division from other City Departments. See Schedule No. 3 for detail..... 2,740.84

INTRAFUND ACCOUNTS RECEIVABLE:

Due Reconstruction and Replacement Fund from the Operating Fund 75,000.00

MATERIAL AND SUPPLIES:

The value of material and supplies on hand amount to..... 18,488.45

PREPAYMENTS:

Cash advances withheld by the Hetch Hetchy Water Supply for work it has not yet completed, $2,027.17; $50.00 was advanced to General Fund for payment of electric bills; $29.25 of this remains unused..... 2,056.42

DEFERRED CHARGES:

These are cash or credit items advanced for work under way and for accounts held in suspense for later distribution to proper permanent accounts when necessary data is available. These items total $14,816.97. It also covers material orders issued and other commitments for which there are contra

LIABILITIES

BONDED DEBT:

The Hetch Hetchy Power proportion of the unmatured bonds issued for the construction of the Hetch Hetchy Project $7,637,900.00

ACCOUNTS PAYABLE:

This is the amount due to General Creditors for material and services purchased. $6,709.62 in invoices has not as yet been audited by the Controller and $4,680.07 is the amount of Warrants issued but not cashed by the Creditors..... 11,389.69

INTERFUND ACCOUNTS PAYABLE:

This is the amount due other City Departments by the Hetch Hetchy Power Division for services rendered or work performed. See Schedule No. 3 for detail..... 48,979.87

INTRAFUND ACCOUNTS PAYABLE:

Operating Fund owes Reconstruction and Replacement Fund.. 75,000.00

DEFERRED CREDITS:

Material orders issued and other commitments for which there are contra items included in Deferred Charges..... 15,854.14

This is the total of the outstanding obligations of the Hetch Hetchy Power Division..... $7,789,123.70

SURPLUS

This is the ownership of the people of San Francisco in the Hetch Hetchy Power Division. It represents the amount that the present value of the properties, cash and other assets exceeds the outstanding obligations. The earnings of the Hetch Hetchy Power Division have been mainly applied to Bond Interest and Redemption of the Hetch Hetchy Project

NEW FREMONT STREET LIGHTING

Fremont Street was included in extensive lighting installations in the vicinity of the new bridge terminal. Bridge across street in background is interurban train approach ramp. Day and night views are shown.

HETCH HETCHY POWER DIVISION
JUNE 30, 1939

EXHIBIT B
COMPARATIVE INCOME STATEMENT

Fiscal Year Ended June 30, 1938, and June 30, 1939, and Period August 16, 1925, to June 30, 1939

Utility Operating Income	Fiscal Year Ended June 30, 1939	Fiscal Year Ended June 30, 1938	Period Aug. 16, 1925, to June 30, 1939
Operating Revenues:			
Power Sales:			
Moccasin Power House:			
General Consumers	$8,876,438.92	$8,717,976.55	$110,255,881.52
Less Distribution Commission	6,555,309.59	6,420,082.43	80,748,743.41
	$2,321,129.33	$2,297,894.12	$29,507,138.11
Water Supply for Construction	.....	.....	604,987.66
	$2,321,129.33	$2,297,894.12	$30,112,125.77
Early Intake Power House:			
Other Electric Corporations	$95,936.56	$69,293.12	$761,571.50
General Consumers	2,392.00	18,882.93	85,887.10
	$98,328.56	$88,176.05	$847,458.60
Water Supply for Construction	.....	.....	199.79
	$98,328.56	$88,176.05	$847,658.39
Total Power Sales	$2,419,457.89	$2,386,070.17	$30,959,784.16

EXHIBIT B—COMPARATIVE INCOME STATEMENT—Continued

	Fiscal Year Ended June 30, 1939	Fiscal Year Ended June 30, 1938	Period Aug. 16, 1925, to June 30, 1939
Operating Revenue Deductions:			
Operating Expenses:			
Production Expenses	$158,276.28	$173,095.55	$2,457,677.06
Transmission Expenses	28,189.51	31,564.58	366,351.85
Administrative and General Expenses	65,805.66	51,900.99	740,450.61
Total Operating Expenses	$252,271.45	$256,561.12	$3,564,479.52
Depreciation Expenses	301,718.41	278,420.79	4,196,266.33
Taxes	4,075.46	3,907.18	56,868.39
Total Operating Rev. Deductions	$558,065.32	$538,889.09	$7,817,614.24
Net Operating Revenues	$1,861,392.57	$1,847,181.08	$23,142,169.92
Income—Non-Utility Operations	11,746.34	10,359.33	456,786.18
Gross Income	$1 873,138.91	$1,857,540.41	$23,598,956.10
Income Deductions			
Interest on Long-term Debt	$354,438.00	$364,984.62	$4,449,700.92
Valuation of Property	4,932.12	.....	4,932.12
Total Income Deductions	$359,370.12	$364,984.62	$4,454,633.04
Net Income	$1,513,768.79	$1,492,555.79	$19,144,323.06

Comparative charges for Federal and State Taxes, as required by Section 64 of the Charter.

1. Federal Income Tax; 16½ to 19 per cent of net income.
2. Federal Capital Stock Tax; $1.00 per $1,000 of declared value of capital stock.
3. Federal Excess Profits Tax; 6 per cent of such portion of net income in excess of 10 per cent and not in excess of 15 per cent of the declared value of capital stock; 12 per cent of such portion of net income in excess of 15 per cent of the declared value of capital stock.
4. California State Franchise Tax; 4 per cent of net income.

EXHIBIT C

SURPLUS ACCOUNT
For Twelve Months Ended June 30, 1939

Surplus, June 30, 1938		$1,313,995.17
Add:		
Net Income for twelve months ended June 30, 1939	$1,513,768.79	
Contributions from Hetch Hetchy Water Supply, for Moccasin Diversion Works and Buildings	345,492.04	
Adjustment of Depreciation Expense, prior to June 30, 1938	11,220.77	1,870,481.60
		$3,184,476.77
Deduct:		
Contributions to Hetch Hetchy Water Supply, for payment of Bond Interest and Redemption	$1,577,848.00	
Contributions to Hetch Hetchy Water Supply, for Additions and Betterments, 1938-39	192.77	
Miscellaneous deductions from Surplus	820.35	$1,578,861.12
		$1,605,615.65

COMPOSITION OF SURPLUS
June 30, 1939

Additions:		
Net Income August 16, 1925, to June 30, 1939	$19,144,323.06	
Contributions from San Francisco Water Dept.	4,170.00	
Miscellaneous additions to Surplus	3,179.49	$19,151,672.55
Deductions:		
Contributions to Hetch Hetchy Water Supply, for Bond Interest and Redemption	$17,143,629.38	
Contributions to Hetch Hetchy Water Supply, for Buildings, Structures, and Improvements, and Reconstruction Replacements	9,600.74	
California Railroad Commission evaluation of P. G. & E. and G. W. P. Co.'s San Francisco properties, 1924-1929	392,006.43	
Miscellaneous deductions from Surplus	820.35	17,546,056.90
Surplus, June 30, 1939		$1,605,615.65

EXHIBIT D
DETAIL OF OPERATING EXPENSES
JUNE 30, 1939

		1938-1939 12 Months 7/1 to 6/30	1937-1938 12 Months 7/1 to 6/30
	PRODUCTION		
	OPERATION:		
6000	Superintendence	$8,086.44	$8,838.12
6005	Hydraulic Labor	12,631.79	12,531.72
6010	Station Labor	44,917.81	45,414.78
6015	Miscellaneous Labor	5,734.48	5,697.52
6020	Supplies and Expenses	14,286.74	15,484.65
6030	Contributions to Retirement System	2,806.65	2,675.81
6035	Compensation Insurance	.....	2,809.60
		$88,463.91	$93,452.20
	MAINTENANCE:		
6050	Structures	$23,580.68	$23,140.84
6055	Reservoirs, Dams and Intakes	5,862.39	4,637.40
6060	Waterways	2,722.89	11,950.18
6065	Forebays, Penstocks, and Tailraces	2,725.00	4,638.55
6070	Roads and Trails	7,229.80	6,933.47
6075	Hydraulic Power Plant Equipment	4,286.77	5,308.70
6080	Miscellaneous Power Plant Equipment	2,805.70	4,335.70
		$49,213.23	$60,944.84
	MISCELLANEOUS:		
6090	Production Rents	$12,500.00	$10,000.00
6092	Communication System	7,167.14	7,808.90
6094	Hydrography	932.00	889.61
		$20,599.14	$18,698.51
	Total Production Expense	$158,276.28	$173,095.55

		1938-1939 12 Months 7/1 to 6/30	1937-1938 12 Months 7/1 to 6/30
	TRANSMISSION		
	OPERATION:		
6200	Superintendence	$1,726.96	$3,259.28
6215	Transmission Lines Labor	9,104.63	9,162.23
6220	Transmission Lines Supplies and Expense	930.95	2,048.33
6225	Contributions to Retirement System	484.44	482.61
		$12,246.98	$14,952.45
	MAINTENANCE:		
6250	Transmission Structures	$19.19	$113.19
6255	Substation Equipment	3,793.51	4,354.83
6260	Towers and Fixtures	397.77	86.58
6265	Tower Line Conductors	890.45	2,746.99
6270	Poles and Fixtures	8,580.51	7,632.36
6275	Pole Line Conductors	499.19	230.29
6280	Roads and Trails	1,187.80	1,337.13
6285	Miscellaneous	546.88	80.76
		$15,915.30	$16,582.13
	MISCELLANEOUS:		
6290	Transmission Rents	$27.23	$30.00
	Total Transmission Expense	$28,189.51	$31,564.58
	ADMINISTRATIVE AND GENERAL:		
8000	Salaries and Wages	$9,718.84	$9,812.06
8005	Contributions to Retirement System	400.40	462.51
8010	Services of Other Departments	33,346.68	31,113.57
8011	Exhibits at Golden Gate International Exposition	5,000.00	.....
8015	Professional Services	1,486.21	1,415.00
8020	Stationery, Office Supplies, and Postage	616.25	469.01
8025	Telephone and Telegraph	244.86	105.45
8030	Traveling	273.87	328.73
8040	Injuries and Damages	119.89	145.03
8051	Automobile Insurance Premium	666.02	639.61
8055	Insurance	434.20	.....
8061	Raker Act Litigation	7,756.86	5,335.42
8062	Williams Litigation	3,213.24	.....
8063	Meridian, Ltd., Litigation	1,896.93	.....
8096	Maintenance of Automotive Equipment	631.41	2,074.60
	Total Administrative and General	$65,805.66	$51,900.99
	FIXED CHARGES:		
9020	Taxes	$4,075.46	$3,907.18
9050	Depreciation Expense	301,718.41	278,420.79
	Total Fixed Charges	$305,793.87	$282,327.97

SCHEDULE No. 1
HETCH HETCHY POWER DIVISION
ELECTRIC PLANT IN SERVICE
JUNE 30, 1939

Number Account		Cost		Accrued Depreciation	
1001A	HYDRAULIC PRODUCTION PLANT		$8,576,922.25		$2,175,987.20
320	Land and Land Rights	$53,903.00		.....	
321	Structures and Improvements	842,351.00		$204,441.31	
322	Reservoirs, Dams, and Waterways	6,609,814.25		1,449,059.63	
323	Water Wheels, Turbines, and Generators	904,753.00		390,393.85	
324	Accessory Electric Equipment	128,546.00		72,559.31	
325	Miscellaneous Power Plant Equipment	17,352.00		9,533.10	
326	Roads, Railroads, and Bridges	20,203.00		.....	
1001B	TRANSMISSION PLANT		$2,798,897.20		$1,255,388.98
340	Land and Land Rights	$49,677.00		.....	
341	Clearing Land and Rights of Way	38,212.00		.....	
342	Structures and Improvements	18,880.00		$6,185.84	
343	Station Equipment	578,543.20		234,578.53	
344	Towers and Fixtures	872,767.00		299,327.64	
345	Poles and Fixtures	39,232.00		20,923.47	
346	Overhead Conductors and Devices	1,199,814.00		693,654.07	
347	Underground Conduit	657.00		368.28	
348	Underground Conductors and Devices	1,115.00		351.15	
349	Roads and Trails	.....		.....	
1001C	GENERAL PLANT		$1,130,446.99		$261,413.13
370	Land and Land Rights	$1,128.00		.....	
371	Structures and Improvements	697,666.49		$227,709.57	
372	Office Furniture and Equipment	4,766.66		3,420.38	
373	Transportation Equipment	18,111.05		6,277.50	
375	Shop Equipment	30,076.00		13,221.74	
377	Tools and Work Equipment	4,689.00		3,479.05	
378	Communication Equipment	.....		.....	
379	Miscellaneous Equipment	10,603.95		7,304.89	
395	Unclassified	363,405.84		.....	
			$12,506,266.44		$3,692,789.31

SCHEDULE No. 1A
HETCH HETCHY POWER DIVISION

RESERVE FOR DEPRECIATION OF ELECTRIC PLANT
JUNE 30, 1939

Description	1 Value in Service	2 Cost of Removal	3 Salvage	4 Net Debits to Reserve 1+2—3=4		5 Credits to Reserve	6 Credit Balance
Balance of Reserve—June 30, 1938 (Credit)							$3,442,549.00
Amount credited to Reserve and charged to Expense, Fiscal Year 1938-39					$301,718.41		
Less Depreciation Expense adjustments, prior to June 30, 1938					11,220.77	$290,497.64	
Retirement of:							
Poles, Cross Arms, etc., in Transmission and Distribution Lines	$451.62	$1,955.12	.....	$2,406.74			
Poles, Cross Arms, etc., in Telephone Lines	728.82	2,558.40	.....	3,287.22			
Porcelain Insulator Units in Transmission Line	17,716.23	9,596.31	.....	27,312.54			
Fences, Cottages 7, 8, and 9, Moccasin	471.90	.....	.....	471.90			
Bridge on Transmission Right of Way, near Tower No. 462	120.57	207.70	.....	328.27			
Grizzly Bars at Forebay, Early Intake Power House	328.24	.....	.....	328.24			
Chrysler Imperial Airflow Sedan, Serial No. 7016381 (1936)	1,683.00	.....	$1,142.89	540.11			
Cesspool at Groveland	419.48	.....	.....	419.48			
Ties in Transformer Track, Moccasin Power House	809.17	.....	.....	809.17			
Six G. E. Single Pole Disconnecting Switches, Type AK, 22 KV. with Pipe Support and Charging Switch 1918	293.00	.....	.....	293.00			
Wooden Cover, Moccasin Power House Sump	326.56	.....	.....	326.56			
Parts of ten Switches on Transmission Line	1,355.01	2,379.09	.....	3,734.10			
Total Debits and Credits to Reserve, Fiscal Year 1938-39	$24,703.60	$16,696.62	$1,142.89	$40,257.33		$290,497.64	250,240.31
Balance of Reserve, June 30, 1939 (Credit)							$3,692,789.31

SCHEDULE No. 2

HETCH HETCHY POWER REPLACEMENT and RECONSTRUCTION FUND RECEIPTS and DISBURSEMENTS

FISCAL YEAR 1938-1939

Balance—June 30, 1938					$110,307.40
Receipts During Year 1938-1939					
Budget Appropriation, 1938-1939				$33,292.00	
Return of Temporary Loan to Hetch Hetchy Power Operation Fund C.C.T.V. No. 119, October, 1938				25,000.00	
Cost of Rehabilitating Hetch Hetchy Railroad paid by Hetch Hetchy Power Replacement and Reconstruction Fund, now repaid by 1933 Hetch Hetchy Dam Fund, C.C.T.V. No. 576, June, 1939				141,688.49	199,980.49
					$310,287.89
Disbursements during year 1938-1939:					
Replacement of Poles, Crossarms, etc., Transmission Line	C.S.T.V.	07		$1,053.02	
Replacement of Poles, Crossarms, etc., Telephone Lines	C.S.T.V.	08		1,248.67	
Replacement of Bridge Transmission Right of Way Tower No. 462	C.S.T.V.	09		328.27	
Replacement of Porcelain Units, Transmission Line	C.S.T.V.	10		11,901.77	
Replacement of one 1936 Chrysler 8 Sedan with new Super 8 Packard Sedan	War.	2196		2,800.00	
Replacement of Grizzly Bars at Forebay Early Intake Power House	C.S.T.V.	18		328.24	
Replacement of Ties, Early Intake Tramway	C.S.T.V.	020		978.10	
Replacement of Fences, Cottages 7, 8, and 9, Moccasin	C.S.T.V.	025		943.81	
Replacement of Poles, Crossarms, etc., Transmission Line	C.S.T.V.	026		390.68	
Replacement of Poles, Crossarms, etc., Telephone Line	C.S.T.V.	027		1,239.25	
Replacement, Voltage Regulator—125 ft. No. 4—7 Strand Copper Wire 217/M887 and M926	C.C.T.V.	386		51.13	
Replacement of Cesspool with Septic Tank, Groveland	C.S.T.V.	033		419.48	
Replacement of Ties in Transformer Track, Moccasin Power House	C.S.T.V.	034		809.17	
Replacement of 22 K.V. Switches, Early Intake Power House	C.S.T.V.	035		4,477.91	
Replacement Voltage Regulator—8 Switches and 4 Transformers—217/M1018	C.C.T.V.	507		547.71	
Temporary Loan to Hetch Hetchy Power Operative Fund to Provide Cash Requirements to June 30, 1939	C.C.T.V.	577		75,000.00	
Replacement of Voltage Regulator, Moccasin Power House	C.S.T.V.	038		398.42	$102,915.63
Treasurer's Cash Balance, June 30, 1939					$207,372.26

SCHEDULE No. 3
HETCH HETCHY POWER DIVISION
DETAIL OF INTERFUND BALANCES
JUNE 30, 1939

	INTERFUND ACCOUNTS—PUBLIC SERVICE ENTERPRISES	Order	Department Number	Controller's Number	Invoice Number	Detail Dr.	Detail Cr.
3300	SAN FRANCISCO WATER DEPARTMENT						
	Long Distance Telephone Calls, January 1st to June 30th, 1939	W. O.	867-33	1996	H.H.P. 6-140		$157.57
							$157.57
3310	HETCH HETCHY WATER SUPPLY						
	Replacement of Wooden Cover with Metal Cover, Moccasin Power House Sump	W. O.	867- 7	239	H.H.P. 6- 71		$326.56
	Services in Connection with Replacement of Physical Properties	W. O.	867-6, 25, 26	238, 1184, 1455	H.H.P. 6- 72		13,999.85
	Replace Defective Parts of 10 Switches in Transmission Line	W. O.	867-22	1027	H.H.P. 6-133		3,734.10
	Expenses in Replacing Voltage Regulator, Moccasin Power House	W. O.	867-39	2817	H.H.P. 6-134		154.86
	Routine Maintenance of Communication System, January 1 to June 30, 1939	W. O.	867-31	1887	H.H.P. 6-135		3,688.66
	Routine Maintenance of Transmission System, January 1 to June 30, 1939	W. O.	867-30, 42	1888, 3291	H.H.P. 6-136		9,897.03
	Replace Poles, Crossarms, etc., in Transmission Line, Jan. 1 to June 30, 1939	W. O.	867-34	1872	H.H.P. 6-137		963.04
	Replace Poles, Crossarms, etc., in Telephone Line, Jan. 1 to June 30, 1939	W. O.	867-35	1873	H.H.P. 6-138		799.30
	Replace Porcelain Insulator Units in 110 K.V. Transmission Line, January 1 to June 30, 1939	W. O.	867-41	3029	H.H.P. 6-139		1,510.92
	Additional Contributions Due for Operating Expenses, 1938-1939				H.P. J.E. 37		7,780.17
	Materials Furnished from Stores, June, 1939				H. 6- 17	$2,542.35	
	Adjustment of Cash Transfer No. 516, 5/25/39—To be Adjusted in August, 1939				H.P. J.E. 38	.01	
						$2,542.36	$42,854.49
3380	HETCH HETCHY POWER RECONSTRUCTION AND REPLACEMENT FUND						
	Temporary Loan to Hetch Hetchy Power Operating Fund			CCTV 577	H.P. J.E. 30	$75,000.00	
						$75,000.00	
3385	HETCH HETCHY POWER OPERATING FUND						
	Temporary Loan from Hetch Hetchy Power Reconstruction and Replacement Fund			CCTV 577	H.P. J.E. 30		$75,000.00
							$75,000.00
	Total—Public Service Enterprises					$77,542.36	$118,012.06
	INTERFUND ACCOUNTS—GENERAL CITY AND COUNTY						
3400	EMPLOYEES RETIREMENT SYSTEM						
	Hetch Hetchy Power Div. Empl. Retirement System Contributions, June, 1939	D. P.			H.H.P. 6- 10		$266.81
	Payments made under the State Compensation Law	D. P.			H.H.P. 6- 13		10.00
							$276.81
3410	RECREATION DEPARTMENT						
	Electric Energy, Month of June, 1939	S. O.	1538, 1550	1363, 1364	H.H.P. 6- 4	$198.48	
						$198.48	
3440	PUBLIC UTILITIES COMMISSION						
	Payroll Charges and Incidental Expenses, January 1 to June 30, 1939	W. O.	867-32	1888	H.H.P. 6-132		$5,691.00
							$5,691.00
	Total—General City and County					$198.48	$5,967.81

HETCH HETCHY POWER DIVISION

COMPARISON OF ACTUAL REVENUES AND EXPENDITURES WITH BUDGET ESTIMATES

FISCAL YEAR 1938-1939

	Month of June, 1939			Twelve Months to June 30, 1939		
	Budget	Revenues Expenditures Accruals	Increase or *Decrease*	Budget	Revenues Expenditures Accruals	Increase or *Decrease*
PRODUCTION EXPENSE						
Electric Generation—Hydraulic Power						
Operation	$7,769.99	$7,478.06	*$291.93*	$93,239.00	$88,463.91	*$4,775.09*
Maintenance	3,963.58	5,934.65	1,971.07	47,558.34	49,213.23	1,654.89
Miscellaneous	746.87	1,627.29	880.42	8,962.00	20,599.14	11,637.14*
Total Production Expense	$12,480.44	$15,040.00	$2,559.56	$149,759.34	$158,276.28	$8,516.94
TRANSMISSION EXPENSES						
Operation	$1,300.50	$1,086.45	*$214.05*	$15,576.00	$12,246.98	*$3,329.02*
Maintenance	1,454.24	2,618.27	1,164.03	17,450.00	15,915.30	*1,534.70*
Miscellaneous	.....	.....	.....	30.00	27.23	*2.77*
Total Transmission Expenses	$2,754.74	$3,704.72	$949.98	$33,056.00	$28,189.51	*$4,866.49*
Administrative and General Expenses	$4,771.42	$7,285.64	$2,514.22	$57,329.00	$65,805.66	$8,476.66
Total Operating Expenses, exclusive of Depreciation	$20,006.60	$26,030.36	$6,023.76	$240,144.34	$252,271.45	$12,127.11
Taxes	$337.55	$343.85	$6.30	$4,049.83	$4,075.46	$25.63
Interest on Long Term Debt	29,536.50	29,536.50	.....	354,438.00	354,438.00	.....
Bond Redemption	21,508.37	21,508.37	.....	258,100.00	258,100.00	.....
Purchase of Equipment	.....	.....	.....	1,200.00	1,161.66	*38.34*
Provision for Replacements and Reconstruction	2,774.37	2,774.37	.....	33,292.00	33,292.00	.....
Bond Interest and Redemption (H. H. W. S. Issues)	131,487.37	131,487.37	.....	1,577,848.00	1,577,848.00	.....
	$205,650.76	$211,680.82	$6,030.06	$2,469,072.17	$2,481,186.57	$12,114.40
Revenues::						
Power Sales	$197,342.47	$199,434.91	$2,092.44	$2,401,000.00	$2,419,457.89	$18,457.89
Other Income	821.92	916.26	94.34	10,000.00	11,746.34	1,746.34
Total Revenue	$198,164.39	$200,351.17	$2,186.78	$2,411,000.00	$2,431,204.23	$20,204.23
Receipts from Surplus	4,166.66	4,166.66	.....	$50,000.00	$50,000.00	.....
Net Saving on Budget Estimate	$202,331.05	$204,517.83	$2,186.78	$2,461,000.00	$2,481,204.23	$20,204.23
			$3,843.28			$8,089.83

*Production Rents deleted from Budget 1938-39 Accrual to June 30, 1939, $12,500.00.

Italic figures denote loss and deficiency.

HETCH HETCHY POWER DIVISION
ACCOUNT 1001 ELECTRIC PLANT IN SERVICE
JULY 1, 1938 TO JUNE 30, 1939

		Balance June 30, 1938	Gross Additions July 1, 1938- June 30, 1939	Retirements July 1, 1938- June 30, 1939	Adjustments July 1, 1938- June 30, 1939	Balance June 30, 1939
1001-A	HYDRAULIC PRODUCTION PLANT					
320	Land and Land Rights	$53,903.00	.....	.....	.....	$53,903.00
321	Structures and Improvements	842,351.00	.....	.....	.....	842,351.00
322	Reservoirs, Dams and Waterways	6,610,348.00	$264,753.49	$328.24	*$264,959.00*	6,609,814.25
323	Water Wheels, Turbines and Generators	904,753.00	.....	.....	.....	904,753.00
324	Accessory Electric Equipment	128,546.00	.....	.....	.....	128,546.00
325	Miscellaneous Power Plant Equipment	17,352.00	.....	.....	.....	17,352.00
326	Roads, Railroads and Bridges	20,203.00	.....	.....	.....	20,203.00
		$8,577,456.00	$264,753.49	$328.24	*$264,959.00*	$8,576,922.25
1001-B	TRANSMISSION PLANT					
340	Land and Land Rights	$49,677.00	.....	.....	.....	$49,677.00
341	Clearing Lands and Rights of Way	38,212.00	.....	.....	.....	38,212.00
342	Structures and Improvements	18,880.00	.....	.....	.....	18,880.00
343	Station Equipment	573,593.00	$6,052.37	$1,102.17	.....	578,543.20
344	Towers and Fixtures	872,767.00	.....	.....	.....	872,767.00
345	Poles and Fixtures	39,232.00	451.62	451.62	.....	39,232.00
346	Overhead Conductors and Devices	1,199,814.00	19,071.24	19,071.24	.....	1,199,814.00
347	Underground Conduit	657.00	.....	.....	.....	657.00
348	Underground Conductors and Devices	1,115.00	.....	.....	.....	1,115.00
349	Roads and Trails	.....	120.57	120.57	.....	.....
		$2,793,947.00	$25,695.80	$20,745.60	.....	$2,798,897.20
1001-C	GENERAL PLANT					
370	Land and Land Rights	$1,128.00	.....	.....	.....	$1,128.00
371	Structures and Improvements	689,793.00	$94,977.43	$1,217.94	*$85,886.00*	697,666.49
372	Office Furniture and Equipment	3,605.00	1,161.66	.....	.....	4,766.66
373	Transportation Equipment	19,116.00	3,942.89	1,683.00	*3,264.84*	18,111.05
375	Shop Equipment	30,076.00	.....	.....	.....	30,076.00
377	Tools and Work Equipment	13,985.00	.....	.....	*9,296.00*	4,689.00
378	Communication Equipment	.....	728.82	728.82	.....	.....
379	Miscellaneous Equipment	10,381.00	222.95	.....	.....	10,603.95
395	Unclassified	.....	.....	.....	363,405.84	363,405.84
		$768,084.00	$101,033.75	$3,629.76	$264,959.00	$1,130,446.99
		$12,139,487.00	$391,483.04	$24,703.60	.....	$12,506,266.44

Italic figures denote loss and deficiency.

SCHEDULE A

HETCH HETCHY POWER DIVISION

GROSS ADDITIONS JULY 1, 1938 TO JUNE 30, 1939

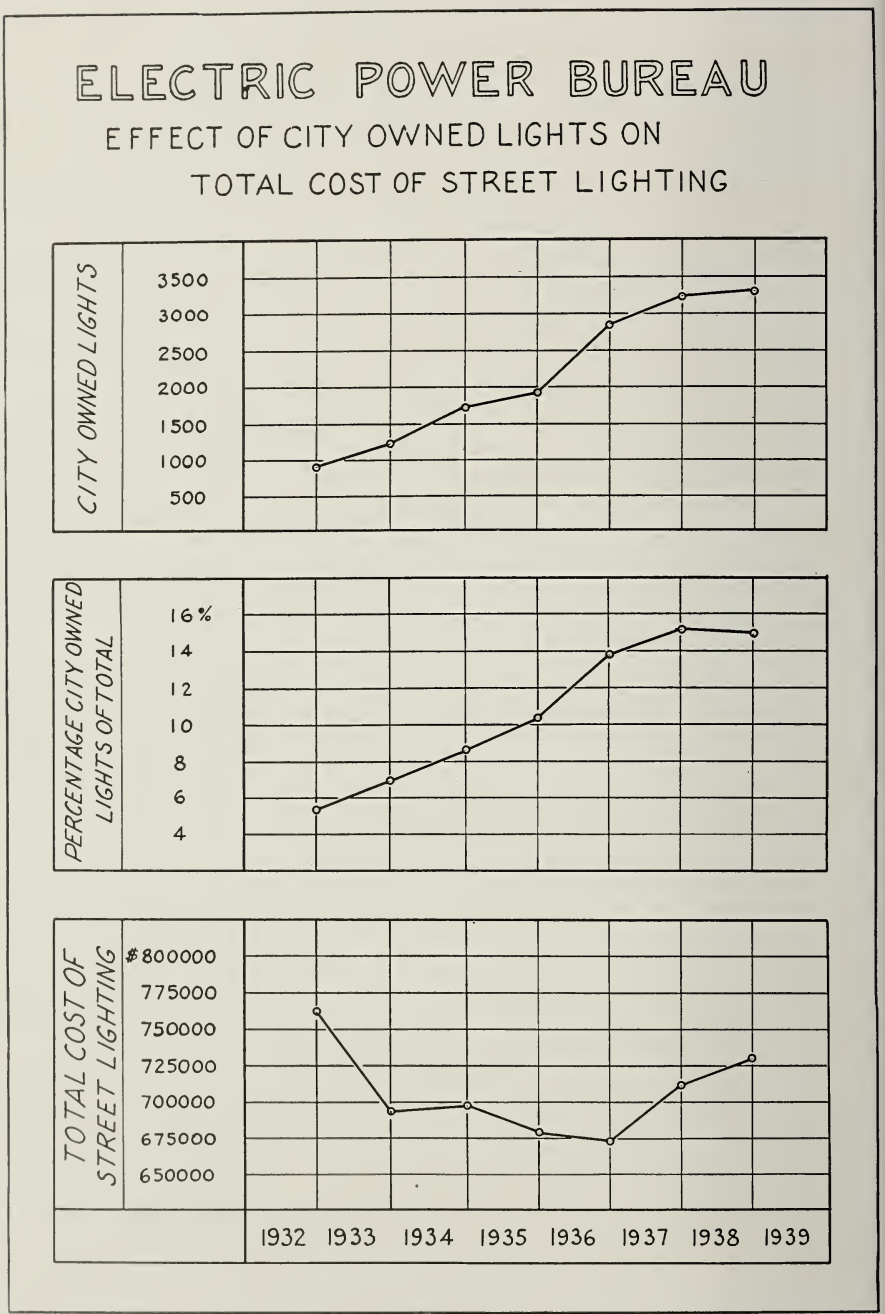
1001-A	HYDRAULIC PRODUCTION PLANT:			
	322	Reservoirs, Dams and Waterways:		
		Moccasin Diversion Works, Regulating Reservoirs—Upper Dam, Concrete Conduit, Metal Liner Plates and Surface Drainage System	$258,466.92	
		Grizzly Bars at Forebay, Early Intake Power House	328.24	
		Trash Screen at Forebay, Early Intake Contract No. 177	5,958.33	$264,753.49
1001-B	TRANSMISSION PLANT:			
	343	Station Equipment:		
		1 High Tension Bushing, 132 K.V. 400 Amp. Condenser Type Transformer Bushing	$765.29	
		New Ties in Transformer Track Moccasin Powerhouse	809.17	
		New 22 K.V. Switches, Early Intake Powerhouse	4,477.91	6,052.37
	345	Poles and Fixtures:		
		Poles, Crossarms, etc., Transmission Line		451.62
	346	Overhead Conductors and Devices:		
		Porcelain Insulator Units Transmission Line	$17,716.23	
		Parts of 10 Switches on Transmission Line	1,355.01	19,071.24
	349	Roads and Trails:		
		Bridge on Transmission Right of Way Tower No. 462		120.57
1001-C	GENERAL PLANT:			
	371	Structures and Improvements:		
		Fences, Cottages 7, 8 and 9, Moccasin	$943.81	
		Concrete Walks and Utility Services to New Cottages at Moccasin and Priest	6,059.01	
		Electric Stoves for Moccasin Cottages	203.45	
		Septic Tank at Groveland	419.48	
		Metal Cover, Moccasin Powerhouse Sump	326.56	
		Moccasin Diversion Works, Cottages, Garages, Sheds, Extension to Sidewalks and Curbs, Roads and Gutters, at Moccasin and Cottage at Priest	87,025.12	94,977.43
	372	Office Furniture and Equipment:		
		Venetian Blinds	$30.00	
		Club Chair Sofa	90.13	
		Drapes and Cornices	57.65	
		Carpet, Mohair Hardtwist, laid over Waffle Lining	304.97	
		1 Rolltop Desk, Walnut, 72x36, Stowe Davis No. 272R7	210.80	
		1 Revolving Armchair, Walnut, Stowe Davis No. 48½	75.00	
		1 Table, 84" x 42" Walnut, Stowe Davis No. 2841	83.50	
		4 Side Arm Chairs, Walnut, Sikes No. 1266	86.00	
		1 Costumer, Walnut, Stow Davis No. 200C	12.50	
		1 Phone Stand, Walnut, Stow Davis No. 200TT	12.50	
		2 Steel Waste Paper Baskets, Stow Davis 21WB	7.00	
		7 Desk Trays, Walnut, Stow Davis L-1	21.00	
		1 4-drawer Vertical Cap File without Ends, with Automatic Unit Lock, Keyed No. 531, Art Metal Construction Co	170.61	1,161.66
	373	Transportation Equipment:		
		1 Packard Super 8, Model 1605, 7 Touring Sedan B "FW," Serial 1114-2030, Motor A-500299		3,942.89
	378	Communication Equipment:		
		Poles, Crossarms, etc., Telephone Line		728.82
	379	Miscellaneous Equipment:		
		2 5-6-39 Westinghouse Electric Refrigerators, CAB626669-3836549 and 626628-3836687		222.95
		Total Gross Additions		$391,483.04

SCHEDULE A CONTINUED

HETCH HETCHY POWER DIVISION

RETIREMENTS JULY 1, 1938, TO JUNE 30, 1939

1001-A	HYDRAULIC PRODUCTION PLANT:			
	322 Reservoirs, Dams and Waterways:			
	Retire Grizzly Bars at Forebay, Early Intake			$328.24
1001-B	TRANSMISSION PLANT:			
	343 Station Equipment:			
	Retire Ties in Transformer Track at Moccasin		$809.17	
	Retire 6 G. E. Single Pole Disconnecting Switches, Type AK 22 K.V. with Pipe Support and Charging Switch—1918		293.00	1,102.17
	345 Poles and Fixtures:			
	Retire Poles, Crossarms, etc., Transmission Line			451.62
	346 Overhead Conductors and Devices:			
	Retire Porcelain Insulator Units, Transmission Line		$17,716.23	
	Retire Parts of 10 Switches Transmission Line		1,355.01	19,071.24
	349 Roads and Trails:			
	Retire Bridge on Transmission Right of Way, Tower No. 462			120.57
1001-C	GENERAL PLANT:			
	371 Structures and Improvements:			
	Retire Fences, Cottages 7, 8 and 9, Moccasin		$471.90	
	Retire Cesspool at Groveland		419.48	
	Retire Wooden Cover, Moccasin Powerhouse Sump		326.56	1,217.94
	373 Transportation Equipment:			
	Retire Chrysler Imperial Airflow Sedan, Serial No. 7016381 (1936)			1,683.00
	378 Communication Equipment:			
	Retire Poles, Crossarms, etc., Telephone Line			728.82
	Total Retirements			$24,703.60


ELECTRIC POWER BUREAU
EFFECT OF CITY OWNED LIGHTS ON
TOTAL COST OF STREET LIGHTING
CITY OWNED LIGHTS
3500
3000
2500
2000
1500
1000
500
PERCENTAGE CITY OWNED LIGHTS OF TOTAL
16%
14
12
10
8
6
4
TOTAL COST OF STREET LIGHTING
$800000
775000
750000
725000
700000
675000
650000
1932 1933 1934 1935 1936 1937 1938 1939

STREET LIGHTING
GAS AND ELECTRIC SUPPLY

The activity of this Bureau with respect to the lighting of streets and furnishing gas and electricity to the various departments of the municipality is no small undertaking as it involves 369 services of gas and 723 services of electricity in addition to over 22,000 street lights. The total expenditure for these services and administration was $1,722,289.10. The administration cost was but 1.2%.

Table I which follows, shows how this expenditure was divided.

TABLE No. I

1938-39 EXPENDITURES FOR GAS, ELECTRICITY AND STREET LIGHTING

Gas for heat and power	$101,868.24	
Electricity for light and power	875,556.64	
	$977,424.88	
Less credits and adjustments	4,592.95	
Net gas and electricity		$972,831.83
Street lighting by contract	$728,430.70	
Maintenance work not covered by contract	844.63	
Pole space rentals	1,033.26	
	$730,308.59	
Less credits and adjustments	1,522.59	
Total street lighting		728,786.00
Administration		20,671.17
Total expenditure for street and building lighting		$1,722,289.10

Street Lighting:

Table II shows the number of lights and the annual expenditure for lighting of streets by years from 1931 to date.

From Table II it will be noted that the cost of street lighting decreased from 1931-2 to 1936-7 and that since that year, the trend has been upward. This upward trend is due to necessary improvements in lighting requiring more lamps and an increase in the average cost per lamp per year. This latter comes about by increasing the size of lamps in many instances and because a larger proportion of these lamps are company-owned. The average yearly cost per lamp for company-owned lights added to the system during the year is $40.90, while the new city-owned lights average $29.68 per year.

During the year the net increase in number of lamps was 650, making a total of 22,028 in service at the end of the year. In order to make this net increase, 1,392 were installed and 742 were removed. Of the new lamps installed 1,339 were company-owned and 56 City-owned. All lights removed were company-owned. A heavy street reconstruction program and the opening up of new tracts has necessitated the installation of the majority of the additional lamps.

TABLE No. II

TABULATION OF STREET LIGHTING EXPENDITURES FOR THE PAST EIGHT YEARS

Fiscal Year	Amount of Appropriation	No. Lights at close of Year	ACTUAL EXPENDITURES Total	Per cent of Taxes	Per Capita	Average Cost per lamp per Year	Construction
1931-32....	$865,000.00	19,500	$855,289.34	...	$1.28	$43.86	.....
1932-33....	850,000.00	17,369	762,933.84	3.10	1.12	43.93	.....
1933-34....	780.000.00	18,115	696,126.56	2.48	1.00	38.43	$52,421.00
1934-35....	766,000.00	20,383	698,701.94	2.32	.98	34.28	43,109.99
1935-36....	699,600.00	20,060	677,128.37	2.24	.93	33.76	35,264.90
1936-37....	728,000.00	20,576	674,869.86	2.15	.91	32.79	218,029.50
1937-38....	735,000.00	21,378	711,737.60	2.21	.95	33.29	.....
1938-39....	735,000.00	22,028	728,786.00	2.18	.98	33.08	9,630.73
1939-40....	760,000.00	.....	.....	...	..	....	.....

Table III shows details of expenditures for the current year.

TABLE No. III

COST OF STREET LIGHTING OPERATION 1938-39

Contractual Service:		
Gross street lighting expenses		$744,122.91
Less: Market Street Railway portion	$12,576.00	
Outages	3,106.21	
Adjustment for overcharge	1,522.59	17,204.80
Net street lighting		$726,908.11
Replacements and Repairs:		
Replacements and repairs	$1,418.00	
Less: Collection for damage	573.81	844.63
Pole space rentals		1,033.26
Total Street Lighting Expenditures		$728,786.00

In the preparation of the budget for the year 1938-39, estimates were made as to the money required to permit the City installing all lighting on streets to be widened and reconstructed, also on new streets. The estimated sum was approximately $1,000,000. As other demands on the City budget were unusually heavy, it was decided that new lighting necessary during the year would be installed by the Pacific Gas and Electric Company on orders from the Public Utilities Commission and in accordance with plans and specifications prepared by this Bureau.

In many instances it had been possible to have conduits installed by City or Federal forces while the streets were open for improvement. Frequently these could be used for the installation of company-owned lights, consequently new schedules were included in the annual contract establishing prices for lights where part of the facilities were owned by the City and part by the company. Thus advantage was secured from all moneys put into underground construction as part of the street work.

This Bureau has during the year prepared plans and specifications for street lighting facilities having a total value of over $300,000. It has also prepared detailed plans and specifications for the lighting of a number of residential tracts

BRIDGE TERMINAL LIGHTING
New ornamental electroliers with double pendant lamps have been installed in the vicinity of the San Francisco-Oakland bay bridge.

being opened up by private enterprise. Inspection of all street lighting construction has been handled either directly or under the supervision of this department.

Table IV shows details of new City-owned street lighting construction completed during the year.

The Pacific Gas and Electric Company included street lights in the general electric rate reductions effective July 1, 1939, and submitted their 1939-40 bid on the basis of the new rates. Prices for street lighting for the coming year will on the average, be 5.5% lower than those in effect for the past few years.

Photographs included herein show some of the new street lighting installed during the year. In some cases these pictures show streets with old and new lighting.

The opening of the Bay Bridge terminal necessitated better lighting in its vicinity. This involved First, Fremont, Mission and Howard Streets on which 38 2-light and 36 single-light pendant standards, 70 single upright standards, and 25 wall brackets were installed.

Other noteworthy improvements are listed below:

	No. Lights	
Third Street		
Howard to Channel	52	20′ iron
Jerrold to Williams	52	
Bay Street:		
Van Ness to Columbus	35	16½′ concrete
Broadway:		
Mason to Davis	57	16½′ iron

NEW LIGHTS ON FULTON STREET

New city-owned lights of the electrolier type were installed on Fulton Street, one of the city's main east-west arteries, in connection with the widening of the street.

	No. Lights	
Golden Gate Avenue:		
Market to Van Ness	55	22′ iron
Nineteenth Avenue:		
Lincoln to Lawton	26	20′ concrete
Taraval to Sloat	25	
California Street:		
Van Ness to Fillmore	50	16½′ concrete
Franklin Street		
Market to Bay	167	16½′ concrete
	4	T/P brackets
Polk Street		
Market to Grove	8	16½′ concrete
Fulton Street		
Franklin to Divisadero	76	16½′ concrete

The amount and value of street lighting plant now owned by the City divided on the basis of their source, is shown in Table V. This indicates that the City has an equity of nearly $950,000 in plant used to light the streets.

TABLE No. IV

NEW CITY-OWNED STREET LIGHTING CONSTRUCTION COMPLETED DURING 1938-9

Location—	No. of Lights	Financed by—	Value
Installed by Real Estate Subdivisions—			
Fifteenth Avenue	4	Tract Owner	$1,480.00
Twenty-fourth Avenue	4	Tract Owner	1,458.00
Ewing Terrace	10	Tract Owner	2,884.00
Geneva Terraces	4	Tract Owner	1,233.00
Lakeside	28	Tract Owner	8,775.00
Cresta Vista Drive	4	Tract Owner	1,499.00
Bet Harte Terrace	2	Tract Owner	611.00
Encline Court	3	Tract Owner	1,015.00
Teresita Boulevard	2	Tract Owner	330.00
Linda Street	3	Tract Owner	1,022.00
Wabash Terrace	7	Tract Owner	2,299.00
San Jacinto Way	1	Tract Owner	170.00
Vallejo Street	3	Property Owners	606.00
Golden Gate Heights	Cross Conduits only	Tract Owner	397.00
Thirty-ninth Avenue	Cross Conduits only	Tract Owner	101.00
	75		$23,860.00
Installed by City Contract—			
Point Lobos Avenue	4	Electric Power Bureau.	$1,359.00
Bernal Avenue	4	Dept. of Public Works.	1,715.00
Golden Gate Avenue	Conduit only	Dept. of Public Works.	3,130.00
Nineteenth Avenue	Conduit only	Dept. of Public Works.	1,821.00
Polk Street	Conduit only	Dept. of Public Works.	1,034.00
Third Street (Howard to Channel)	Conduit only	Dept. of Public Works.	3,707.00
Third Street (Mission to Howard)	Conduit and Foundations only	Dept. of Public Works.	1,874.00
	8		$14,640.00
Installed by W. P. A.—			
Bay Street	Conduit and Foundations only	W. P. A.	$5,622.00
Fulton Street	Conduit and Foundations only	W. P. A.	9,653.00
Franklin Street	Conduit and Foundations only	W. P. A.	16,558.00
Geneva Avenue	Conduit and Foundations only	W. P. A.	4,271.00
Lake Merced Boulevard	Conduit only	W. P. A.	774.00
Total	83		$36,878.00
			$75,378.00

TABLE No. V

VALUATION OF CITY-OWNED STREET LIGHTING PLANT JULY 1, 1939

	Installed by			
	City	W. P. A. and P. W. A.	Property Owners	Total
Number of lights	2,657	44	292	2,993
Feet of conduit	380,300	354,800	50,000	785,100
Feet of cable	635,800	20,500	82,500	738,800
Total value	$675,551	$188,055	$82,920	$946,526

Table VI shows the acquisition of this property by years. In addition to the plant listed in these tables, the City owns 268 lights and their connections in underpasses, on viaducts and other special structures. These installations were made as part of the structure and have a value of $23,272.

TABLE No. VI
INVESTMENT IN CITY-OWNED STREET LIGHTING BY YEARS

	City Funds		Federal Funds		Property	
	D. P. W.	P. U. C.	W. P. A.	P. W. A.	Owners	Total
Before January 1, 1932	$141,707	.....	.....	.....	$17,908	$159,615
January 1, 1932-July 1, 1932	36,622	.....	.....	.....	.....	36,622
Fiscal Year 1932-33	30,110	.....	.....	.....	.....	30,110
1933-34	48,391	.....	.....	.....	.....	48,391
1934-35	102	$96,811	.....	.....	6,545	103,458
1935-36	8,072	14,114	$11,553	.....	6,819	40,558
1936-37	24,500	180,850	47,321	$18,444	16,269	287,384
1937-38	14,083	61,301	77,212	.....	12,414	165,010
1938-39	12,096	6,792	33,525	.....	22,965	75,378
Total, July 1, 1939	$315,683	$359,868	$169,611	$18,444	$82,920	$946,526

In the past a number of tracts opened for development have been fitted with partial or complete street lighting. The Bureau has been able to have some of these installations deeded to the City. The value of this plant is not included in Table V as there has been no means of readily determining the value and making allowance for depreciation. These lights represent a very small percentage of the total in use. Because such installations were not made by the Pacific Gas and Electric Company in their entirety, the City has enjoyed lower prices for their operation and maintenance in view of the smaller investment which the company has to carry.

Actual experience indicates that an average annual return of nearly 9% can be made on the investment necessary for City-owned street lighting by reason of lower operating contract costs. This high rate of return shows the desirability of annually providing money with which to gradually increase the percentage of the street lighting system owned by the municipality.

Gas and Electric Power Supply:

Table VII shows the quantity and total costs of both gas and electricity furnished to each of the City departments. Both these commodities were supplied by the Pacific Gas and Electric Company with which the City has an annual contract. All gas is purchased on the basis of regular schedules as established by the California Railroad Commission. Electricity may be purchased for lighting purposes at a flat contract rate of 2¾ cents and for power purposes at a cost of 2 cents per kw-hr. In addition to these contract prices any of the published schedules are open to the City. It is the duty of this department to select the most economical method of purchase for each account. To do this it is necessary to have exact knowledge of the service required and the quantity consumed. As changes in demand and usage are being made constantly, running surveys and inspections are necessary to insure that purchases are made to the best advantage. Several general changes in rates have been made in the past few years and every one of these has involved careful study of each account to get maximum advantage from each new set of rates.

NEW MISSION STREET LIGHTING

Ornamental and effective lighting of Mission Street near new bridge terminal is shown in day and night views above.

TABLE No. VII

DEPARTMENTAL GAS AND ELECTRICITY CONSUMPTION AND EXPENDITURES, 1938-39

CONSUMPTION					EXPENDITURES					
Electricity		Gas								
No. of Accts.	KWH	No. of Accts.	Cubic Feet	Department	Gas	Electricity	Total	Credits and Adjustments	Inter-Dept. Transfers	Total
3	279,226	3	3,606,500	Airport	$1,311.10	$6,560.24	$7,871.34	.....	.....	$7,871.34
7	479,360	1	37,600	Auditorium	29.89	8,668.68	8,698.57	.....	—$1,677.93	7,020.64
3	53,394	1	328,200	Detention Home	173.28	1,273.65	1,446.93	.....	.....	1,446.93
4	58,796	..	.....	De Young Museum	.....	1,332.03	1,332.03	.....	.....	1,332.03
5	64,914	2	1,034,900	Dept. of Electricity	523.58	1,403.82	1,927.40	$110.74	.....	1,816.66
62	429,801	96	22,799,100	Fire Department	12,005.85	11,482.83	23,488.68	859.64	.....	22,629.04
19	714,382	17	308,844,800	Health Department	48,278.39	14,966.55	63,244.94	302.42	.....	62,942.52
5	134,550	..	.....	Legion of Honor	.....	2,769.27	2,769.27	.....	.....	2,769.27
26	524,674	23	3,084,500	Library	1,572.02	10,850.44	12,422.46	.....	.....	12,422.46
13	44,511,417	3	1,003,000	Municipal Railway	484.25	504,089.12	504,573.37	+2,656.76	.....	507,230.13
80	2,489,816	21	11,694,400	Park Department	3,212.53	40,143.07	43,355.60	746.43	+2,231.29	44,840.46
66	238,437	17	4,365,300	Police Department	2,265.82	11,156.71	13,422.53	531.39	+ 288.54	13,179.68
34	633,438	5	2,514,000	Board of Public Works	726.20	12,674.22	13,400.42	473.52	.....	12,926.90
9	118,167	4	1,337,600	Purchasing Department	575.20	2,662.49	3,237.69	.....	.....	3,237.69
13	1,755,108	..	.....	Public Buildings	.....	26,717.38	26,717.38	.....	+1,677.93	28,395.31
55	299,278	25	1,676,800	Recreation Department	1,105.68	7,641.80	8,747.48	303.88	.....	8,443.60
4	9,615	2	7,500	Registrar	21.74	264.94	286.68	.....	.....	286.68
240	2,637,727	130	12,599,300	Schools	7,743.67	60,263.84	68,007.51	189.09	.....	67,818.42
3	695,760	3	25,510,900	Sheriff	5,116.04	11,395.75	16,511.79	.....	—2,519.83	13,991.96
2	1,058,800	3	16,486,600	War Memorial	3,548.55	17,697.20	21,245.75	.....	—7,167.08	14,078.67
...	.....	..	.....	Art Museum	.....	.....	.....	.....	+7,167.08	7,167.08
58	15,201,696	11	77,623,400	Water Department	13,094.06	120,255.67	133,349.73	3,005.78	.....	130,343.95
4	10,277	2	160,900	Public Welfare	80.39	263.27	343.66	.....	.....	343.66
8	29,247	..	.....	Hetch Hetchy	.....	1,023.67	1,023.67	726.82	.....	296.85
723	72,427,880	369	494,715,300	Total	$101,868.24	$875,556.64	$977,424.88	$4,592.95	.....	$972,831.93

NOTE: Credits and adjustments are corrections of total amounts billed and fall in the following groups:

1. Increase due to meter reading error $2,656.76
2. Deductions due to meter or billing error 2,667.81
3. Deductions due to change in schedule for lowest possible rate 4,581.90

TABLE No. VIII

PURCHASE OF ELECTRICITY BY SCHEDULES

For Lighting and Miscellaneous Use

Schedule	No. of Accounts	KWH	Cost	Cost per KWH
$.0275	364	1,676,732	$45,900.68	$0.274
L-1	43	1,694,994	40,785.47	.241
L-3	16	264,498	9,772.45	.369
L-9	6	117,172	1,729.31	.1476
L-14	2	988	46.52	.471
C-4	12	4,075,040	67,468.37	.1656
C-7	1	277,440	6,506.37	.2345
D-1	6	59,383	872.05	.1469
D-3	9	64,235	1,242.18	.193
D-21	1	13	6.00	.462
L-21	1	12	.87	.725
Total	461	8,230,507	$174,330.27	$0.2118

For Power

$0.02	200	1,943,157	$38,158.99	$0.1964
P-1	8	107,943	2,053.87	.190
P-3-13	8	1,391,422	18,702.06	.1344
P-7	2	217,440	5,080.62	.2337
P-9	1	44,328,819	503,317.88	.1135
P-15	14	3,885,100	45,493.34	.1170
P-17	2	74,908	1,388.81	.1854
P-30	1	12,006,400	74,680.62	.622
C-1	9	242,166	3,215.28	.1328
P-2	1	18	40.72	.2262
	246	64,197,373	$692,132.19	$0.1078
Special	16	.....	6,007.28	....
Total	723	72,427,880	$872,469.74	$0.1205

NEW MISSION STREET LIGHTING

Night views of Mission Street before (above) and after (below) installation of the new electrolier lighting system.

TABLE No. IX
PURCHASE OF GAS BY SCHEDULES

For General Use

Schedule	Number of Accounts	Cubic Feet	Cost	Cost per 100 Cu. Ft.
G-1	280	36,758,800	$19,986.74	5.437¢
G-2	8	2,523,300	1,246.60	4.940
G-7	1	184,100	141.27	7.674
	289	39,466,200	$21,374.61	5.416¢

General Heating

GH-1	70	48,710,300	$17,060.10	3.502¢
GH-2	2	3,709,800	1,281.74	3.455
	72	52,420,100	$18,341.84	3.499¢

For Special Heat and Power

GS-1	5	379,285,000	$56,096.89	1.479¢
GS-2	1	23,544,000	4,248.85	1.805
Special	2	.....	300.00	....
	8	402,829,000	$60,645.74	1.505¢
Total	369	494,715,300	$100,362.19	2.029¢

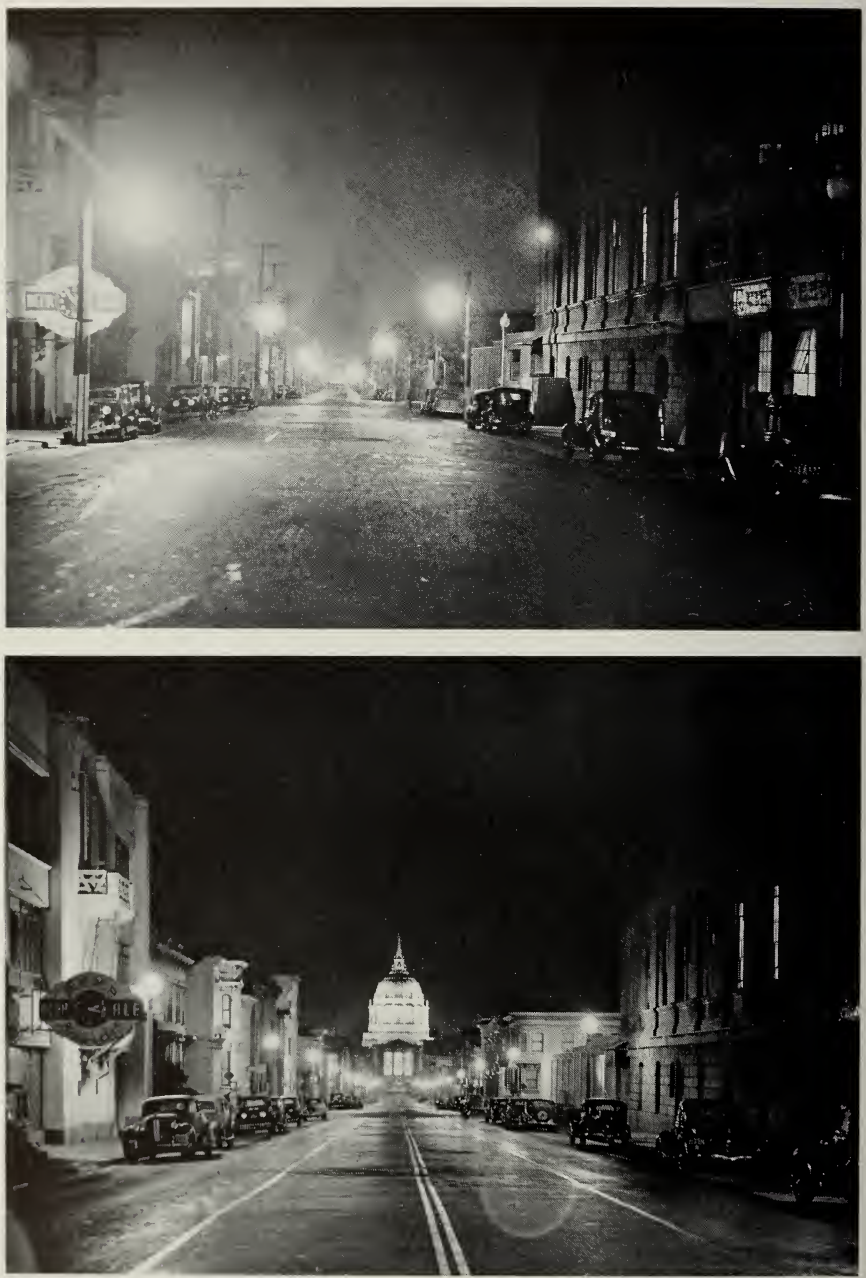
Surveys frequently reveal that physical changes of City facilities and service connections may make lower rates available. Recommendations for such changes are made to departments and in some cases where departmental funds are not available, funds allocated to this department for this purpose are used. During the past year the following changes were made with the resulting annual saving as shown, which will continue in the future.

	Cost of Change	Annual Saving
City Hall	$4,470	$3,400
Main Library	1,195	850
Lowell High School	235	230
High School of Commerce	450	856

As this Bureau has no control over the usage of gas and electricity of the departments, it is sometimes found at the end of the year that the best suited rate has not been applied to an account, in which case application has been made to the Pacific Gas and Electric Company for a rebilling and refund. This year 28 such rebillings have been made with a resulting saving of $2,125.57. During the year the Bureau has secured $2,173.36 from the company on bill adjustments through change in rate and other reasons.

Services to the net value of $7,731.16 were supplied to 63 accounts sponsored by W.P.A. projects.

The Bureau has upon request and voluntarily, furnished engineering service and advice to many departments of the City in matters dealing with gas, electricity and illumination. A number of plans and specifications have been prepared for other departments. Notably this year was the work done for the Park Com-



NEW FULTON STREET LIGHTING

Night views of Fulton Street before (above) and after (below) installation of the new electrolier lighting system.

mission. Plans and specifications were drawn for relighting of the tennis courts in the Palace of Fine Arts and for an addition and rearrangement of the San Andres pumping plant which delivers water to County Jail No. 2, and to Sharp Park in San Mateo County. The Bureau has also been asked to assist in air conditioning matters and has made a study and prepared a report for the Main Library, and at the present time is working on a similar project for the Hall of Justice.

The Fire Department has been assisted by making electrolysis surveys of the auxiliary high pressure water supply system, particularly adjacent to the Bay Bridge terminal. Through cooperation with the Bureau of Architecture and private architects in designing public buildings, it has been possible to secure conditions permitting economical purchase of services and avoiding the necessity of making future changes. It is to be regretted that a number of City departments have been unable to secure funds with which to make changes which would not only decrease the cost of their gas and electric supply, but in many instances materially improve conditions.

The Bureau has assisted in the preparation of plans and specifications for electrical installations at the San Francisco Airport and on request of the manager designed a system of lights to be used on trucks handling mail, express and baggage into and out of airplanes. It is the desire of the Bureau to make itself as useful as possible to every department of the City by helping them in the solution of their electric, gas and lighting problems.

MASS TRANSPORTATION

As reported last year, on July 5, 1938, the Board of Supervisors ordered Mr. E. G. Cahill, Manager of Utilities, to enter into negotiations with the Market Street Railway for the purpose of determining a price which the Company would be willing to accept for its properties. On August 5, 1938, Mr. Samuel Kahn, President of the Market Street Railway, submitted the following letter to Mr. Cahill:

MARKET STREET RAILWAY COMPANY
San Francisco, California

Office of
Samuel Kahn,
President

August 5, 1939

Mr. E. G. Cahill, Manager of Utilities
City and County of San Francisco
City Hall, San Francisco
Dear Mr. Cahill:

Pursuant to a resolution adopted by the Board of Supervisors of the City and County of San Francisco, you called at my office on several occasions to obtain a price at which we would sell the operative property of the Market Street Railway Company to the City.

The operative property of the Company consists of: tracks, roadbeds, overhead construction, electric street cars, cable cars, work cars, trolley buses and automotive equipment, carbarns, cable machinery houses, substations and shops, land on which the buildings are situated and rights of way; it does not include several parcels of non-operative real estate (although one piece, situated at Market and Valencia Streets, has a small blacksmith shop located on it), the stock of materials and supplies, and office equipment.

On June 30, 1928, M. M. O'Shaughnessy, deceased, when City Engineer, determined that the reproduction cost of the Company's property was $45,859,006.00 and that the reproduction cost less depreciation was $28,602,831.00. According to our records, the net depreciation from that date to June 30, 1938, was $2,520,916.00 thereby bringing the reproduction cost less depreciation down to date at $26,081,-915.00. While the valuation of this Company's property is not being used as a basis of negotiations, nevertheless, these figures cannot be entirely disregarded as they indicate holdings of considerable magnitude dedicated to public use.

As to price, I can only make recommendations to the stockholders. It is fundamental to them, however, that such price must be sufficient to pay:

Item 1—The outstanding bonds.
Item 2—The bank loans and other floating indebtedness.
Item 3—The unpaid power bills.
Item 4—The cost of liquidating the Company including the maintenance of Legal and Claims departments for disposition of a large number of damage suits and claims.
Item 5—To provide for 1921 bondholders, particularly the owners of the Prior Preference stock, as all of this stock, much of which is held in San Francisco, and a part of the junior stocks, were issued in exchange for bonds and therefore represents money loaned to this Company to provide service for the people of San Francisco.

The debts of this Company (Items 1, 2 and 3, preceding paragraph) amount to $7,000,000.00. The estimated cost of winding up the Company's affairs (item 4) is $575,000.00.

The 1921 bondholders (now represented by stock) in all fairness are entitled to, at least, 35 cents on the dollar. This figure is approximately one-third the amount these bondholders originally invested and does not take into consideration the fact that they have not received any return on their investment for fourteen years. If such return were taken at only three per cent, these bondholders would be entitled to an additional 42 cents on the dollar, but consideration herein has been given only to the partial return of principal and not any to interest. Such partial return of principal would require $5,375,000.00.

The aggregate of the foregoing items is $12,950,000.00. The value of the non-operative property mentioned hereinbefore is estimated at $450,000.00 which, when deducted from the above figure of $12,950,000.00 leaves a balance of $12,500,000.00.

I am willing to recommend to the stockholders that the Company surrender all franchises and convey its operative property to San Francisco for the sum of $12,500,000.00.

Very truly yours,

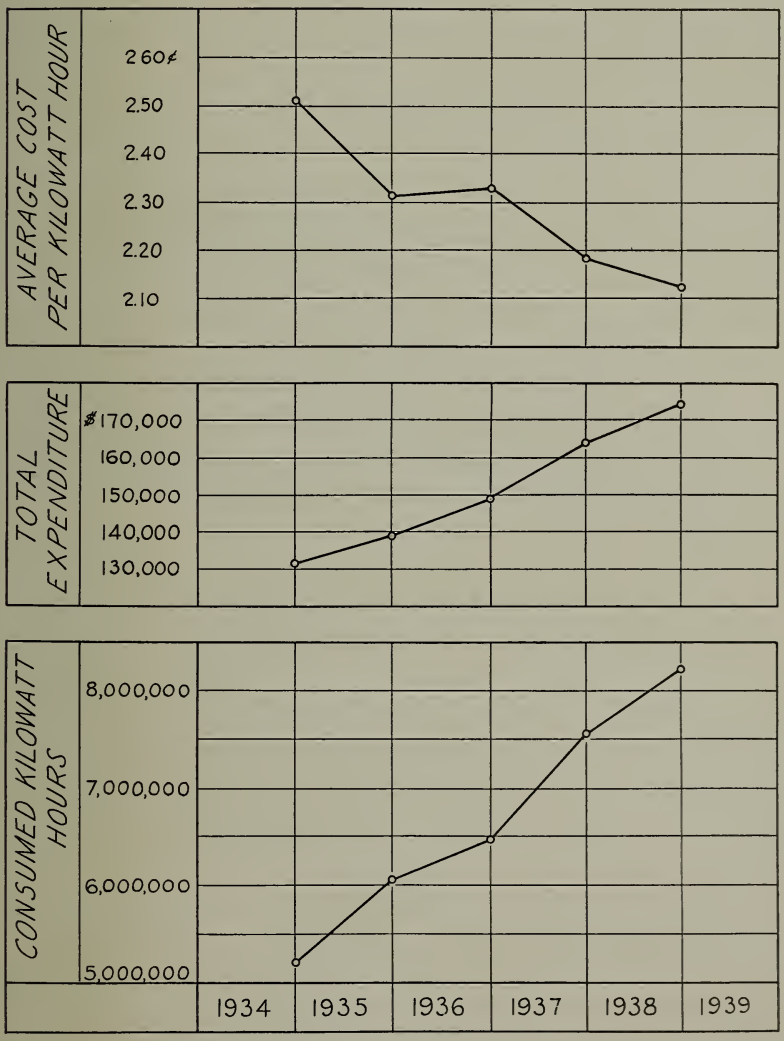
(Signed) SAMUEL KAHN, President

SK:AK

Mr. Cahill immediately transmitted a report to the Board of Supervisors on the proposed purchase of the Market Street Railway for combination with the Municipal Railway in one city-wide system. The preparation of this report had been carried on with a $10,000 appropriation made in the 1937-1938 budget. This report showed that a capital investment of $39,000,000 would be necessary to purchase the property of the Market Street Railway on the basis of Mr. Kahn's letter, and rehabilitate the property by reconstructing tracks and replacing cars with new cars, trolley coaches and buses. As the Board of Supervisors felt it was impossible to secure authorization to expend this sum, the work of rehabilitation was reduced to the minimum essential to render satisfactory service, and a bond

ELECTRIC POWER BUREAU

LIGHTING OF PUBLIC BUILDINGS



issue in the sum of $24,480,000 was submitted at the primary election held September 27. Opposition developed because some people believed that the Market Street Railway's price of $12,500,000 was excessive. The vote in favor of the bond issue was 52,680 and against 93,979. As this proposition required a two-thirds' vote to carry, it lacked 45,093 votes of passage.

Another proposition on the same ballot and sponsored by a minority of downtown interests, proposed the creation of a Traffic Commission to study both vehicular and mass transportation traffic. It was suggested that this Commission employ as engineer C. H. Purcell, Chief Engineer of the California Highway Commission, and the San Francisco-Oakland Bay Bridge. This measure received 59,235 favorable votes and 69,891 unfavorable votes. During the campaign many held that the Market Street Railway properties should not be purchased until the proposed Traffic Commission had made its report. This and the question of price, were the dominant factors in defeating the proposition to consolidate the railways under City ownership.

Since that time nothing further has been done about purchasing the Market Street Railway. However, steps have been taken toward employing Mr. Purcell on a five-year contract to study and make recommendations for the handling of all kinds of traffic. Numerous objections and obstacles have so far prevented this plan being carried out.

Market Street Railway traffic has fallen off appreciably since the establishment of the 7-cent base fare on May 29, 1938. The Company has, however, been able to reduce service on account of the decrease in traffic and has improved its financial showing with the 7-cent fare. The effect of the 7-cent fare on the Municipal Railway, which still continues to charge 5 cents, has been to increase its loadings to the maximum possible during the peak hours and with heavy all-day loading. The result has been an appreciable increase in Municipal Railway earnings as shown in detail in the report of the Railway.

MUNICIPAL RAILWAY ENGINEERING

The location of the terminal station for rail transportation over the San Francisco-Oakland Bay Bridge, which faces Mission Street between Fremont and First streets, was not reached by the street cars operating on Market Street. As these cars carry patrons from north of Market and west of Twin Peaks, these people would not have direct access to the bridge trains. To correct this condition, the Market Street Railway and the Municipal Railway had agreed that a loop would be constructed from Market Street to the terminal, via First Street, and return to Market Street via Fremont Street, and had asked the Bridge Authority to construct the station with a ramp at approximately the level of the mezzanine floor, over which the street cars could be operated.

It was the original intention that the Market Street Railway pay half the cost of construction and the Municipal Railway half, with the cost of operation and maintenance divided on an equitable basis. For financial reasons the Market Street Railway was unable to pay for half of this loop and on July 26, 1938, an agreement was entered into by the two railways under which the Municipal Railway agreed to build all the facilities to the bridge terminal and permit the Market Street Railway to operate over a single track on both First and Fremont streets. At the terminal the Market Street Railway has the exclusive use of the northerly of the three tracks on the ramp, and the joint use of the center track. For this

usage the Market Street Railway is to pay the Municipal Railway 10 per cent of the cost of half the construction each year, and share in maintenance and operation charges. With this agreement executed, the Municipal Railway immediately set about securing materials and entering into construction contracts, which permitted the completion of the job and commencement of operation to the terminal on its opening to train traffic on January 15, 1939. The total cost of this work was $154,046.

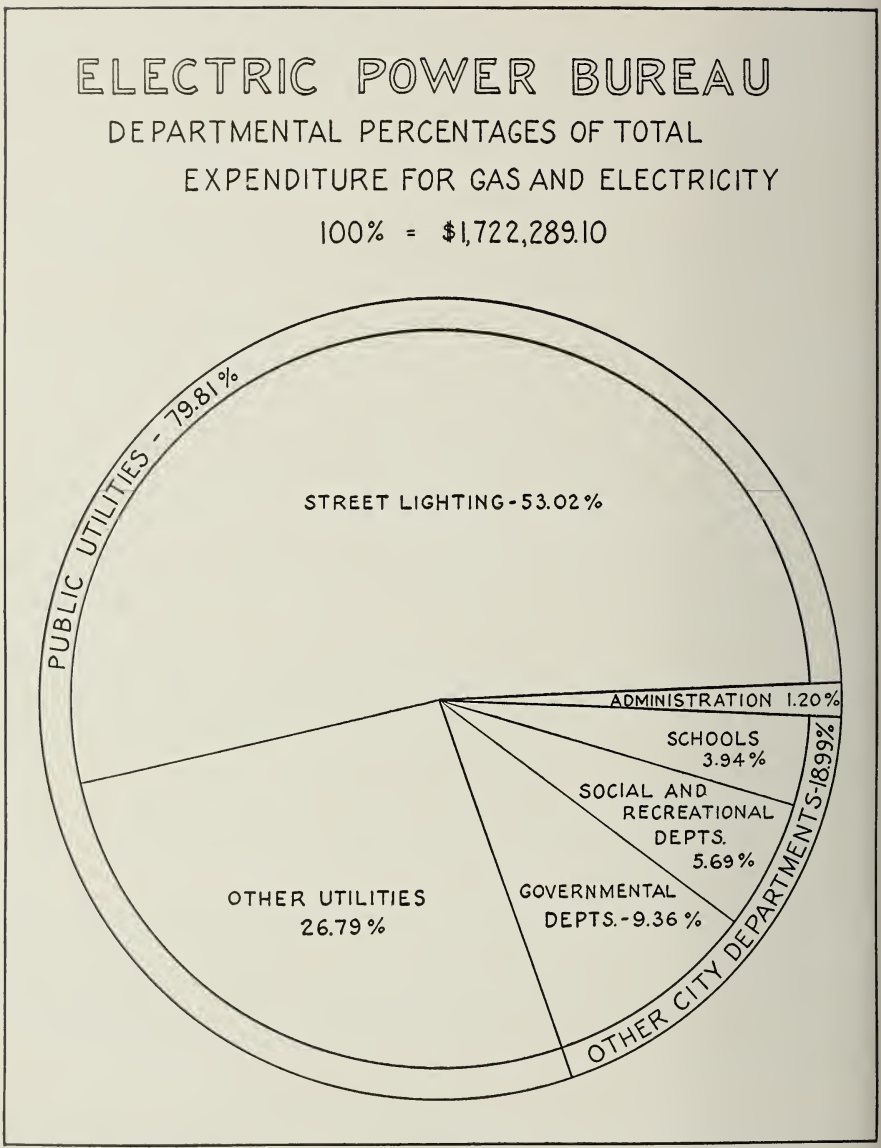
Both systems divided their Market Street service between the Ferry and the terminal building, in such a way as to provide a rich service to the terminal building. It was immediately evident that the traffic to and from the terminal did not warrant the continuance of this frequent service.

The opening of the Golden Gate International Exposition on February 18, 1939, added materially to the demand for additional service to connect with the ferry boats operating from the foot of Market Street to Treasure Island. A number of adjustments in schedules were made so as to fit the car service to the demands, with the result that during the latter part of the year, no street cars have been running to the terminal after 7 o'clock in the evening, after 2 p.m. on Saturdays, and at any time on Sundays. During these hours all Market Street cars are routed to serve the lower end of Market Street and the visitors to the Exposition. While this has discommoded an almost negligible number of patrons to the terminal, it has made it possible to give good transportation to thousands of people who wished to reach the Exposition via the ferries. After the close of the Exposition service will be adjusted between the terminal and the ferry to meet as many demands as possible.

The increased traffic diverted to the Municipal Railway by the 7-cent fare of the Market Street Railway has necessitated improvement of street car and bus feeder service. Careful studies were made of the equipment best suited to the requirements and specifications were prepared for the construction of five modern light-weight high-speed street cars equipped with rubber springs and wheels with rubber inserts insuring quiet operation. Contract for the construction of these was awarded to the St. Louis Car Company on June 13, 1939, at a cost of $16,945 each. These cars will be delivered sometime between the middle of October and the early part of November.

San Francisco grades and street pattern have necessitated developing a car which differs appreciably from those of similar type operated in Eastern cities. San Francisco's cars will be arranged so that they may be operated from either end and go over the sharp breaks in grades without difficulty. Forward facing seats for 60 passengers will be provided. These seats will be fitted with comfortable upholstery and the paint and trimming of the car is expected to make it particularly attractive.

It was also decided to extend Municipal Railway service into the heart of the Mission District by substituting trolley coaches for Market Street Railway cars on Howard Street where the Company no longer has a franchise. These trolley coaches were to run along Howard Street and Van Ness Avenue South from the bridge terminal to Army Street. Plans and specifications were prepared for the coaches and a contract was awarded for the construction of 9 to the St. Louis Car Company at a cost of $12,345 each. Mrs. Adolph Uhl, wife of Supervisor Uhl, asked that an injunction be granted preventing the expenditure of the depreciation reserve funds which constituted a part of the total appropriation of $228,000. This case has not yet been heard and work on the project has been held up until a



decision has been rendered. This action has prevented a populous part of the Mission District from receiving the benefits of five-cent transportation.

Street grades at Nineteenth Avenue and Judah Street were lowered approximately 4 feet in the improvement of Nineteenth Avenue. This necessitated lowering the Municipal Railway tracks on Judah Street for nearly two blocks. This

work was done under a contract awarded to the Municipal Railway for the sum of $9,839.

The tracks in the Twin Peaks Tunnel were placed in service in 1917. The rails on the down grade sections have worn badly because of the short wheel base of the street car trucks and constant braking. Approximately 2 miles of track are being rerailed and partially retied. Eaton and Smith is doing the work, the total cost of which will be approximately $40,000.

Funds have been provided and specifications drawn for reconstructing the Municipal Railway tracks on Geary Street west from Powell to Fillmore. These tracks were laid in 1912 and have borne very heavy traffic. Because of the heavy use of the Railway and the large number of visitors in San Francisco incident to the Exposition, it was decided to defer this work until the early spring of 1940. Current plans call for the reconstruction of the Geary Street tracks from Fillmore Street west to Tenth Avenue and as much of this work as possible will be completed before the winter sets in.

Plans were made for the construction of a suitable garage for Municipal Railway buses but on account of objection from nearby residents a new site will have to be selected. It is hoped that with this can be included a suitable shop to take care of street car repairs. So far the Municipal Railway has never had adequate facilities for repairing its equipment. This condition must be corrected at the earliest possible date.

Included in the work proposed for the coming year is the extension of the Municipal Railway maintenance of way material yard to the west of the present Seventeenth Street carbarn. The railway already owns half of this block and it is proposed to purchase the other half. With the closure of York Street between Mariposa and Seventeenth streets there will be provided space in which miscellaneous railway stock can be safely and conveniently stored.

Early in 1939 the Municipal Railway placed orders for additional heavy service gasoline coaches which will be used to extend the feeder service into a number of sections of the City. One of these lines will replace the present "M" line running into the Ocean View District. This will operate over Junipero Serra Boulevard and give more convenient service to the Ingleside District and the fast growing residential tracts to the west of Junipero Serra Boulevard. The other lines will be located in territories not now satisfactorily served by public transportation.

AIRPORT EXHIBIT

A large section of the Utilities exhibit at the Golden Gate International Exposition was devoted to mass charts

SAN FRANCISCO AIRPORT

B. M. DOOLIN
Manager

B. M. DOOLIN
Manager, San Francisco Airport

Foreword

The large scale development plan for San Francisco Airport described in last year's annual report has been carried steadily forward during the past fiscal year. Fulfillment of this plan, which will add some 300 acres to the landing area and establish a major seaplane harbor in conjunction therewith, has been the management's chief concern, but the continued rapid advancement of the air transportation industry as a whole has made it necessary to direct attention also to anticipated needs of the future, principally in the nature of equipment and facilities for an ever increasing number of aircraft operators and aircraft industries.

Although San Francisco Airport was practically closed to transport traffic for 56 days during the busy months of the fiscal year, while runway resurfacing and widening was in progress, a summary of air traffic for the twelve months' period ending June 30, 1939, shows the following impressive figures:

Passenger arrivals and departures (excluding "through" passengers)	45,702
Air Mail Pounds In and Out (excluding "through" cargo)	887,092
Air Express Pounds Out (excluding "through" cargo)	93,540

(Inbound express not weighed at the Airport)

The runway project mentioned above lasted from March 25 to May 20, 1939, during which time none of the 21-passenger "Mainliners" were allowed to use San Francisco Airport. Some 2 to 3 schedules daily, on which smaller airplanes were in use, operated from the field, but even these were frequently cancelled under wind conditions which would have necessitated landings near or across the construction areas.

That careful foresight must be maintained in planning for the future is realized when one considers the dilemma presented by the present status of the air transportation industry. To the observing public the magnitude of the industry's growth appears phenomenal. Facts and figures stamp aviation in the minds of

the people as a major transportation industry, and rightly so. And yet a survey not only of the number but also the names of people who used the airlines during the past year would in all probability reveal the fact that about ½ of 1% of our nation's population ride in airplanes. (Air Commerce Bulletin, Vol. 10, page 98). In other words, even though this industry has grown to phenomenal proportions since its inception not so many years ago, yet this growth is a mere scratch on the surface of future possibilities. It is because of this circumstance that extraordinary consideration must be given the future in the development of a modern air terminal.

On the domestic air routes of the United States, 73,727,834 revenue miles of scheduled airline flying are on record for the past fiscal year, an increase of 8 per cent over the previous fiscal year. Revenue passengers carried numbered 1,377,792, an increase of 31 per cent. Even more impressive are statistics for the last month of the fiscal year. During June, 1939, 164,578 passengers were carried, an increase of 64¼ % over June, 1938.

Field Enlargement Project Well Under Way:

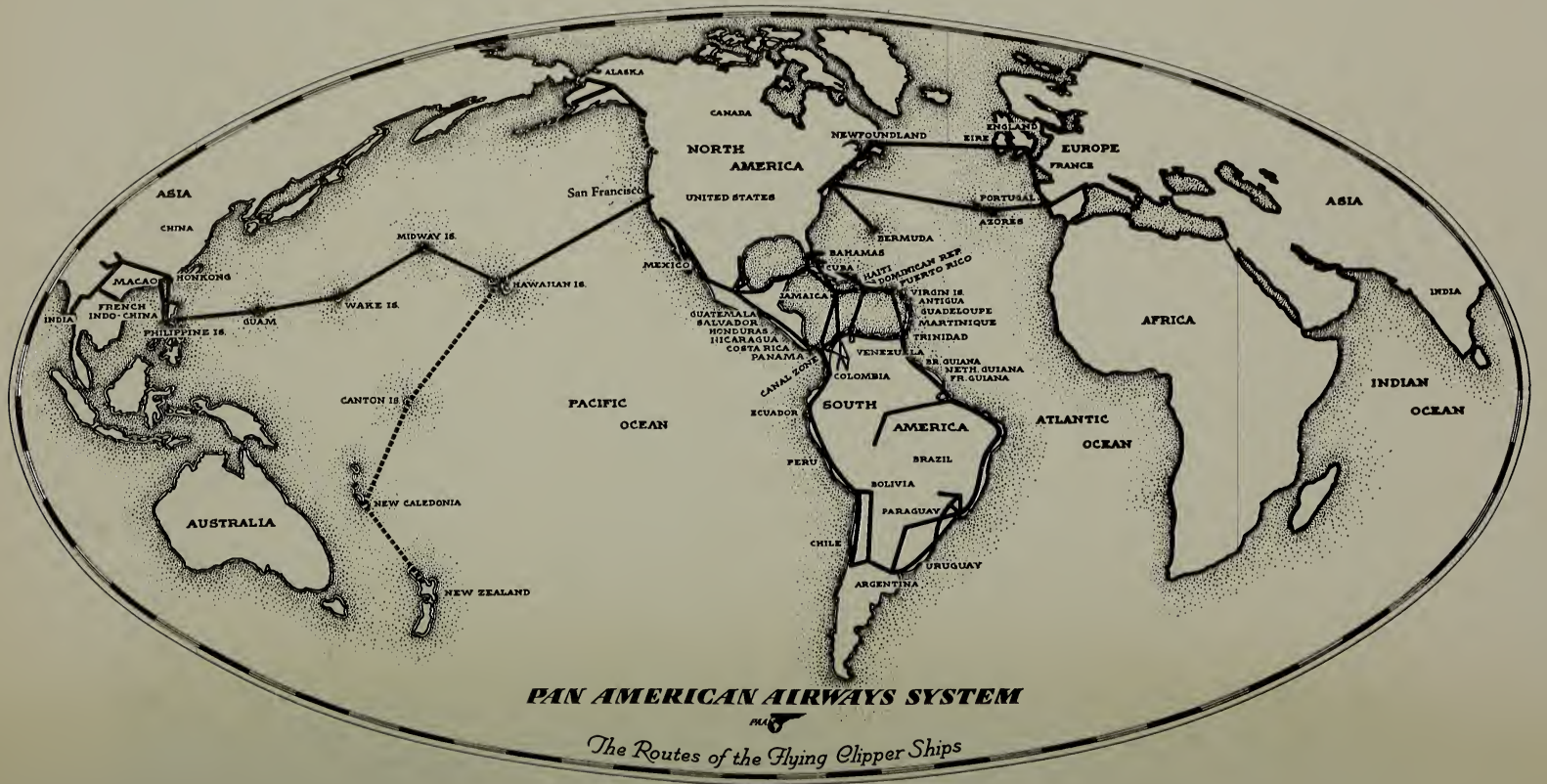
A detailed discussion of the physical development of San Francisco Airport during the fiscal year is contained in the Engineering and Construction Work section of this report, but a brief resume of the improvements effected may be included at this point.

It will be recalled that in last year's report mention was made of letting a contract for the construction of a 9,000 foot seawall around a 300 acre tide flat area adjoining the field on the east, this area to be reclaimed as an extension to the landing field. Construction of that seawall was completed in mid-November of 1938, and not long thereafter a contract was let for placing 1,200,000 cubic yards of dirt and rock fill within the enclosure formed by the new seawall. This contract is to be completed by February, 1940. The dirt and rock portion of the fill will provide for the reclamation of about 42% of the proposed 300 acre area, including all runway extensions and a new 4,500 foot runway. The balance of the area, made up of the outer sections, will be reclaimed by pumping processes. The hauling project is well under way as the fiscal year is brought to a close, the contractor making use of large diesel trucks which operate between the airport and a quarry 2½ miles north, via a direct, specially built road.

Improvements Made on Present Landing Field:

On the present landing field proper much improvement work has likewise been accomplished. The two paved runways have been widened to 200 feet and have been entirely resurfaced and crowned. The unpaved runway has been highly improved, and is maintained in good condition for the heavy transports during all seasons of the year. Flush lighting of the runways is planned during the next fiscal year, and preparatory thereto all duct lines were installed along the runway edges while the widening and resurfacing project was under way. Certain northern sections of the field, which were formerly rough and unusable, have been graded and made available for aircraft operations. Existing runway dimensions are as follows:

4,650 by 200 feet, northnorthwest to southsoutheast, paved, with 200 foot macadam extensions on each end.
3,000 by 200 feet, westnorthwest to eastsoutheast, paved.
3,000 by 150 feet, northnortheast to southsouthwest, hard macadam.



CLIPPER SHIPS OF PAN AMERICAN AIRWAYS LINK THE WORLD TO SAN FRANCISCO

The company has established the American base of its trans-Pacific services at the city's Treasure Island airport.

An efficiently designed maintenance building has been constructed just north of the administration area, and a corporation yard for housing all the airport maintenance equipment and supplies has been established around the new building.

High Tension Towers Obstruction Marked:

To make for safer aircraft operation in and out of San Francisco Airport the high tension power line towers which run in a general north-south direction some three-quarters of a mile or more west of the field have been obstruction lighted and painted beyond the ends of the runways. Although the airport is singularly free from obstructions on all approaches, the power line mentioned being less than one-half the height that would require it to be lighted under federal regulations, yet its marking is indicative of the great precautions being taken to remove all possibility of aircraft accidents.

Pan American Airways Established at Treasure Island:

Definitely selecting San Francisco as its permanent Pacific Coast base, Pan American Airways began operations at Treasure Island on January 31, 1939, with the China Clipper's arrival from the Orient. A ten year lease providing for use of the site was signed in July, 1938. Option to renew the lease for another ten years is set forth in the agreement. Thus, one of the greatest transportation developments in world history, the establishment of scheduled trans-Pacific air travel, has the city of San Francisco as a major base in its operations' scheme. During the current year 1939, thousands of visitors at the Golden Gate International Exposition gather at the Port of the Trade Winds on Treasure Island to watch the impressive demonstrations of Clipper operations, the thrilling arrivals and departures of the huge 41-ton flying boats wending their way on schedule between San Francisco and the Orient. The far reaching effect of this service will be known in its proper proportions only to historians of the future. Most certainly it marks the beginning of an era of travel and commerce destined to bring all nations of the world into close relationship one with another. In the realization of this destiny San Francisco will play as important a role as a seaport city in air transportation as she has in the brilliant annals of ocean going vessels of the past, since the Golden Gate was entered by the good ship "San Carlos" on August 5, 1775.

Impressive traffic statistics released by Pan American Airways at the close of the fiscal year on June 30, 1939, are as follows:

Scheduled flying completed between San Francisco, the Philippines and the Orient—2,682,570 miles.

Passenger-miles flown between San Francisco, the Philippines and the Orient—18,000,000.

Pan American Airways System as a whole:

Miles of airway in use (47 countries and colonies)	53,548
Passengers carried on entire system	1,170,000
Passenger-miles flown on entire system	435,000,000

Survey flights over a proposed aerial route between San Francisco and New Zealand via the Hawaiian Islands are nearing completion, and scheduled service will be inaugurated as soon as official approval is granted by the United States Government, probably within the next few months.

U. S. Coast Guard Base at San Francisco Airport:

Plans for the establishment of a U. S. Coast Guard base at San Francisco Airport's new seaplane harbor have passed all preliminary stages, and in June, 1939, a contract was let by the Treasury Department in the amount of $513,000 for the construction of facilities at the site. The contract provides for an administration building with barracks for a personnel of 60 men, a hangar with ample shop space, a wharf, ramp, and various appurtenances at the base. Modernistic lines will be followed in the architectural designs. Appropriations by Congress for construction and equipment amount to $927,000.

The City and County of San Francisco deeded to the U. S. Coast Guard a 20 acre plot of ground on the seaplane harbor shore for use in establishment of the base. The new governmental facility will add much prestige to San Francisco Airport, and provide the finest possible safeguard against loss of life in the waters of San Francisco Bay. Heretofore the airport's emergency power boat has been called into action many times in the rescue of fishing and sailing parties. Furthermore, the remote possibility of an airplane having to make a forced landing in the bay will be adequately covered, in that the Coast Guard planes will be on hand to reach such an emergency within a few moments time.

U. S. Weather Bureau Establishes Office at S. F. Airport:

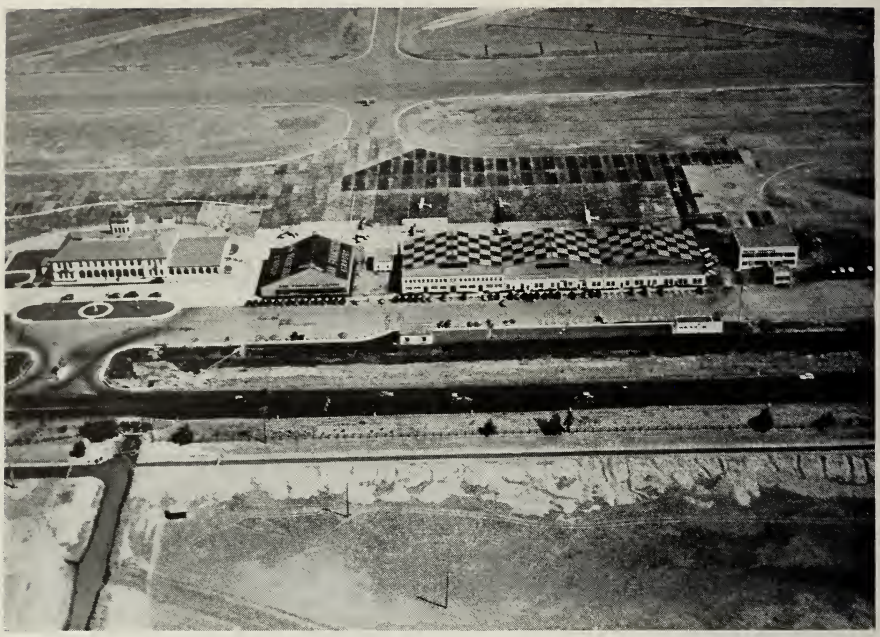
Negotiations by the airport manager were successfully concluded when the U. S. Weather Bureau established an office at San Francisco Airport on December 22, 1938. Heavy aircraft traffic at this terminal made it imperative that a governmental weather station be on hand to provide the aircraft operators and flying public with adequate service. Prior to this time the City and County of San Francisco had provided personnel for this work, but as traffic increased and duties of these men increased along other lines, such as in airport traffic control, it became apparent that the weather work should be handled entirely by the U. S. Weather Bureau.

Negotiations for Installation of Radio Range:

Preliminary work in connection with the installation of a radio range facility at San Francisco Airport has been completed, and a 40-acre plot of bay property, on which the facility will be located, has been purchased. It is situated 3½ miles eastsoutheast of the airport in a direct line with the prevailing wind runway. All easements for a causeway, light and water mains, power and communications lines to the site have been secured. Pending completion of the field enlargement project and the lengthening of the instrument landing runway to 6,000 feet the 40-acre plot will not be used, but a temporary installation will be made on an 8-acre plot on San Mateo point some 4 miles southeast of the field. A lease to use this plot has been obtained for a nominal rental.

With a radio range in operation, pilots can bring their craft down through cloud layers "on the beam" under conditions of low ceiling and visibility. Once underneath the cloud level a contact approach can be made for a landing.

Another highly beneficial radio facility now being perfected is the "blind landing beam," which will permit pilots to bring their ships to a safe landing even under conditions of dense fog, with no ceiling or visibility. As soon as tests being carried on by the Civil Aeronautics Authority are complete and the beam facility approved, this installation will likewise be added to the facilities at San Francisco Airport.



AIRPORT BUILDING GROUP

This aerial view shows administration building on left, 4 hangars and machine shop building. Bayshore highway, which gives ready access to San Francisco is in the foreground. Concrete aprons and a portion of runway appear at top of the picture.

"Skyway Cafe" Opened:

On February 10, 1939, the airport's "Skyway Cafe" was officially opened to the public. The concession includes a coffee shop, refreshment lounge, and news counter. A lease for its operation was signed with Mr. and Mrs. Chan P. Keeney, well known restaurant operators and flying enthusiasts. The beautifully designed fixtures are of Philippine mahogany, and follow the architectural designs of the building as a whole.

Airport Exhibit at Exposition:

At the Golden Gate International Exposition an appreciable portion of the San Francisco Public Utilities exhibit is given over to the airport department. Large wall panels depict in graphic and pictorial form the more impressive features of operations at the San Francisco Airport.

San Francisco's central location with respect to world air commerce is shown by a large airline map of the world. Comparative figures on traffic, airport development, and aircraft equipment are shown by graphs easily interpreted by the layman. Photographs tell their own story of airport activity.

Thousands of visitors from all parts of the world are given a clear conception of San Francisco's position in the field of air commerce. The exhibit not only

depicts facilities of the present day, but also shows the manner in which development has taken place during the past decade, and that which will be forthcoming in the near future.

NATIONAL AERONAUTICAL PROGRESS

In the national field of aeronautical progress, which must be closely followed in local airport planning, the newly established Civil Aeronautics Authority has been fully organized, and is very active in promoting advancement in all branches of the aviation industry. The Authority was created by Senate Bill 3845 on June 23, 1938, and has jurisdiction over all civil aeronautics in the United States. Principal attention has been directed to the promotion of safety in all branches of flying, the fostering of scheduled flying and extension of airline routes and facilities, a survey of all airports and landing fields in the United States, and the promotion of private flying on a large scale.

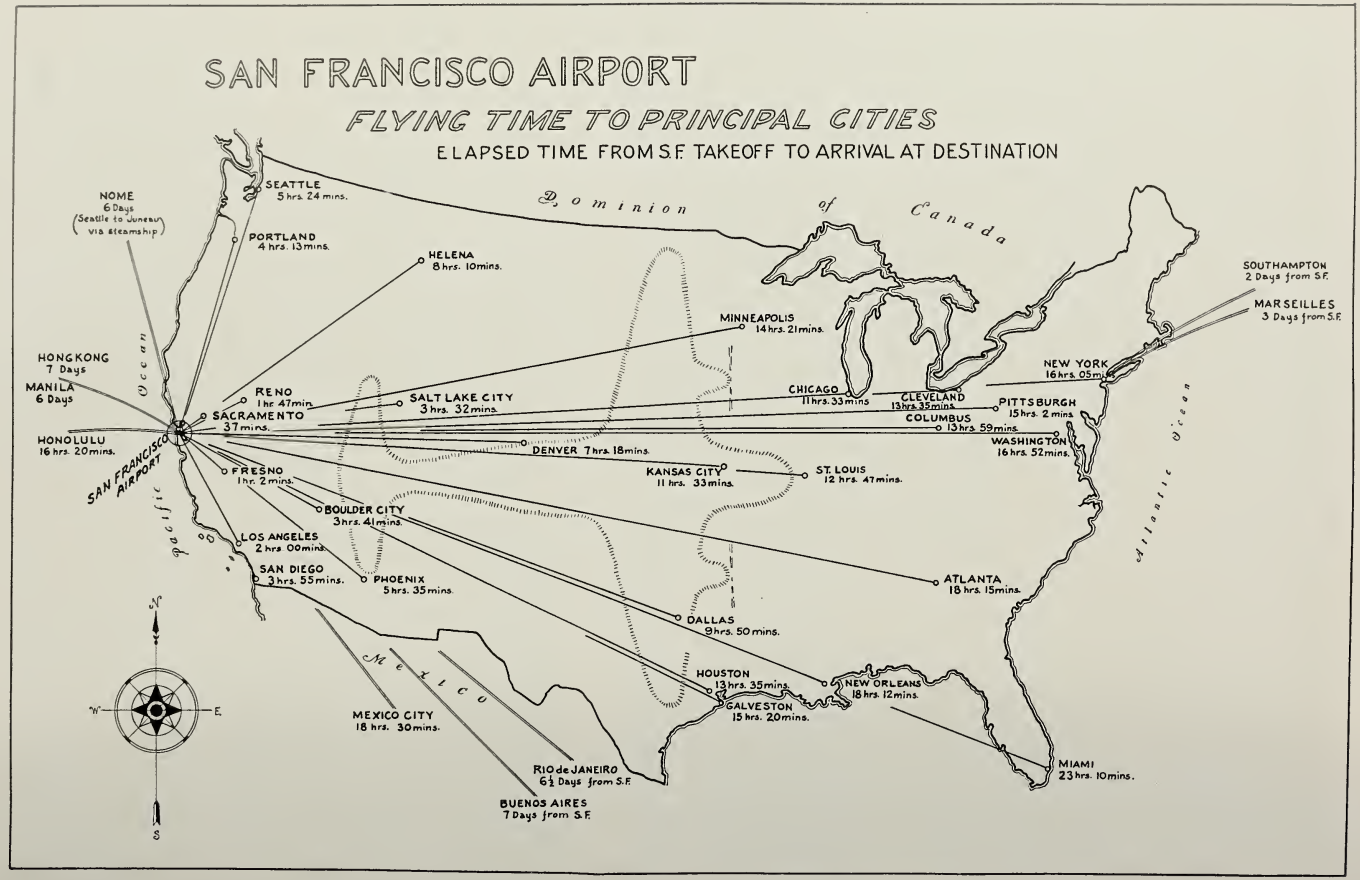
On May 1, 1939, the Authority completed the $7,000,000 airways modernization and improvement program started a year and a half ago. Among other items included in the program was the addition of 1,500 miles of new airway to the Federal Airways System, bringing the total mileage to 25,500. Complete radio facilities and visual aids to air navigation are provided. After July 1, 1939, the Authority plans to let contracts for some 2,000 more miles of airway, including beacon lights and emergency landing fields.

Statistics Published by C. A. A.:

A press release of the Civil Aeronautics Authority contains impressive statements that may be quoted verbatim:

"Today 26,144 pilots hold certificates, 6,000 more than a year ago, an increase of about 30 per cent. There are 11,160 certificated airplanes today, 1,400 more than a year ago or an increase of almost 15 per cent, an increase that will be moved startlingly upward by the production figures of the first 6 months (of 1939) if they are maintained on an annual basis.

"The increase in pilots according to every indication of our charts will be even more startling. Even without the Authority's own pilot training program, the curves show that there would be 36,000 certificated pilots by the end of 1940, and 43,000 by the end of 1941. Taking into account the student pilot training program, however, the number of pilot certificates in force by the end of 1941 ought to approximate 70,000 of all classes. It is easy to foresee what this tripling of the number of flyers in three years will mean in demand for increased airport facilities, increased manufacturing capacity, and increased use of the federal airways and of the aids to navigation."


SAN FRANCISCO AIRPORT
FLYING TIME TO PRINCIPAL CITIES
ELAPSED TIME FROM S.F. TAKEOFF TO ARRIVAL AT DESTINATION
NOME
6 Days
(Seattle to Juneau via steamship)
SEATTLE
5 hrs. 24 mins.
PORTLAND
4 hrs. 13 mins.
HELENA
8 hrs. 10 mins.
Dominion of Canada
MINNEAPOLIS
14 hrs. 21 mins.
SOUTHAMPTON
2 Days from S.F.
MARSEILLES
3 Days from S.F.
HONGKONG
7 Days
MANILA
6 Days
Pacific Ocean
RENO
1 hr. 47 min.
SALT LAKE CITY
3 hrs. 32 mins.
SACRAMENTO
37 mins.
CHICAGO
11 hrs. 33 mins.
CLEVELAND
13 hrs. 35 mins.
NEW YORK
16 hrs. 05 mins.
PITTSBURGH
15 hrs. 2 mins.
COLUMBUS
13 hrs. 59 mins.
HONOLULU
16 hrs. 20 mins.
SAN FRANCISCO AIRPORT
DENVER 7 hrs. 18 mins.
WASHINGTON
16 hrs. 52 mins.
FRESNO
1 hr. 2 mins.
KANSAS CITY
11 hrs. 33 mins.
ST. LOUIS
12 hrs. 47 mins.
BOULDER CITY
3 hrs. 41 mins.
LOS ANGELES
2 hrs. 00 mins.
SAN DIEGO
3 hrs. 55 mins.
PHOENIX
5 hrs. 35 mins.
ATLANTA
18 hrs. 15 mins.
Atlantic Ocean
DALLAS
9 hrs. 50 mins.
HOUSTON
13 hrs. 35 mins.
NEW ORLEANS
18 hrs. 12 mins.
GALVESTON
15 hrs. 20 mins.
Mexico
MEXICO CITY
18 hrs. 30 mins.
MIAMI
23 hrs. 10 mins.
RIO de JANEIRO
6½ Days from S.F.
BUENOS AIRES
7 Days from S.F.
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Round-the-World Air Travel a Reality:

On June 17, 1939, scheduled round-the-world air travel was inaugurated with the take-off of Pan American Airways' "Atlantic Clipper" on the route between the United States and Europe. The dream which people the world over have known since the inception of aviation thereby became a reality. Huge 41-ton flying boats, capable of carrying 72 passengers and a crew of 17 are used on the Atlantic crossings, the same type of seaplane that is used between San Francisco and the Orient. However, due to the necessity of providing sleeping accommodations, and due to the heavy fuel reserve requirements demanded by the Civil Aeronautics Authority, the present capacity of these huge clippers has been reduced to about 35 passengers and a crew of 11, varying somewhat with the length of flights involved between stopping points.

It is inspiring to consider the fact that the flag of the United States now flies in the air from Nome, Alaska, to Buenos Aires in the Argentine, and from Hong Kong, China, to Marseilles, France.

Safety in Airline Travel:

Determination on the part of the Civil Aeronautics Authority and the airline operators of the nation to reduce aircraft accidents to a minimum has been extremely effective. One of the main subdivisions of the newly established Authority is the Air Safety Board, whose duties are: (1) investigate facts, conditions, and circumstances, and determine causes of accidents involving aircraft; (2) make recommendations to prevent their recurrence; and (3) make public reports and recommendations in such form and manner as it deems to be in the public interest. Also, upon request or approval of the Authority, the Board conducts research or special duties on matters involving air safety.

The value of the Air Safety Board's operation, and the ultra conservative procedures adopted by the airlines can best be judged from results obtained. Airline accident statistics for the past fiscal year and the year prior thereto show the following impressive results:

Domestic Airlines Only	Fiscal Year 1937-38	Fiscal Year 1938-39
Miles flown per accident	2,127,063	2,168,466
Miles flown per fatal accident	13,613,204	18,431,958
Revenue passengers carried	1,048,421	1,377,792
Passenger fatalities	39	13
Revenue passenger-miles flown per passenger fatality	11,306,121	42,067,750

Feeder Lines to be Established:

A major trend that must be considered is the establishment of short feeder lines throughout the nation. Fifty-three new routes have been applied for by twenty-five different operators, and are to be considered by the Civil Aeronautics Authority. Total mileage of these new routes would be 15,000 if all were granted, which would increase the airline mileage of the nation by 43 per cent. That all the applications will not at present be approved is well understood, but the trend well indicates the rapid expansion that may confidently be looked for in the future.

Four-motored Transports to be Used by Airlines:

Plans for the use of four-motored transports by the airlines are progressing rapidly. Both of the lines using San Francisco Airport are definitely contemplating this important step. United Air Lines has ordered six Douglas DC4 transports, 32½-ton planes which carry 42 passengers and a crew of 5. Transcontinental & Western Air plans to use Boeing "Stratoliners," 21-ton planes to carry 33 passengers and a crew of 4. Both of these transports are built for high altitude, substratosphere flying, with hermetically sealed cabins being supplied with circulating air at pressures experienced at ordinary flying levels, and comfortable temperatures. The ships can thereby take advantage of the greater speeds possible in the rarefied regions of the upper atmosphere, and likewise surmount the storm areas which cause many delays in flying at lower levels.

TRANSPORT TRAFFIC

San Francisco Airport continues to be served by the only two transport airlines operating in northern California. Transcontinental & Western Air, Inc., maintains its operations base at this field, and United Air Lines uses our terminal for all its San Francisco and peninsula passengers and cargo. As of June 30, 1939, United's schedules provide 22 arrivals and 22 departures daily, and Transcontinental & Western Air has 1 arrival and 1 departure daily.

On November 1, 1938, Transcontinental & Western Air extended its route to the southwest to include Phoenix, Arizona. Prior to that date the airline maintained schedules from San Francisco Airport to New York via the southern route, through Fresno, Las Vegas, Boulder City, Winslow, and Albuquerque. Under the route extension the flight is continued from Boulder City to Phoenix with stops at Kingman and Prescott. Eastbound passengers from San Francisco board the transcontinental plane at Boulder City, this latter plane having inaugurated its flight at Los Angeles. The route extension to Phoenix is destined to provide far reaching benefits in directly linking the Pacific southwest with the San Francisco Bay area.

United Air Lines operates schedules to New York via Reno, Salt Lake City, Denver, and Chicago. Coastwise schedules are maintained between San Francisco and Vancouver, and San Francisco and San Diego. United's routes also include those between Portland and Salt Lake City, and Pendleton and Spokane.

That traffic on both Transcontinental & Western Air and United Air Lines is increasing rapidly as the fiscal year is brought to a close is clearly indicated by figures released by the airlines. During the second quarter of 1939 (April, May and June) Transcontinental & Western Air flew 25,766,813 revenue passenger miles, an increase of 36 per cent over the corresponding period of last year. United Air Lines flew 37,896,785 revenue passenger miles during the three months, an increase of 30 per cent over the same period of last year.

Due to close cooperation between these airlines and others throughout the nation, a San Francisco passenger can fly to any section of the United States and nearby countries with little or no delay in making connections. With trans-Pacific "Clipper" service in effect, and with the establishment of trans-Atlantic service on June 17, 1939, many passengers frequenting San Francisco Airport are bound for or arriving from distant lands, which can now be reached in but a fraction of the time required in former years.

OPERATIONS OF UNITED AIR LINES AND TRANSCONTINENTAL & WESTERN AIR AT SAN FRANCISCO AIRPORT

Month	Transport Planes (Arrs. and Deps.) 1937-38	Transport Planes (Arrs. and Deps.) 1938-39	Percentage Increase or Decrease	Passengers 1937-38 Off	Passengers 1937-38 On	Passengers 1938-39 Off	Passengers 1938-39 On	Total Passenger Increase or Decrease	Pounds of Air Mail In and Out 1937-38	Pounds of Air Mail In and Out 1938-39	Percentage Increase or Decrease	Pounds of Air Express Out Only 1937-38	Pounds of Air Express Out Only 1938-39	Percentage Increase or Decrease
July	1,366	815	—40%	2,547	2,559	1,932	2,078	—21%	95,236	60,498	—36%	11,283	7,743	—31%
August	1,456	975	—33%	3,168	3,299	2,687	2,799	—15%	97,546	86,064	—12%	12,617	8,049	—36%
September	1,560	1,016	—35%	3,156	3,212	2,408	2,510	—23%	99,544	78,153	—21%	19,714	10,727	—46%
October	1,413	1,167	—17%	2,781	2,598	2,374	2,373	—12%	97,043	98,175	+ 1%	17,760	10,669	—40%
November	1,308	1,029	—21%	1,958	1,847	1,991	1,956	+ 4%	102,355	90,626	—11%	14,949	9,750	—35%
December	1,032	848	—18%	1,329	1,492	1,226	1,347	— 9%	99,374	86,555	—13%	12,470	9,411	—25%
January	1,196	843	—30%	1,955	1,637	1,256	1,278	—29%	91,009	84,412	— 7%	8,801	7,796	—11%
February	979	951	— 3%	1,602	1,769	1,308	1,486	—17%	77,974	87,187	+12%	6,697	7,477	+12%
March	1,176	*656	*—44%	1,756	1,809	*1,309	*1,592	*—19%	102,554	*53,385	*—48%	9,472	*5,001	*—47%
April	1,055	*144	*—86%	1,777	2,059	*254	*343	*—84%	91,523	*2,775	*—97%	9,421	*301	*—97%
May	1,109	*770	*—31%	2,001	2,281	*1,534	*1,704	*—24%	91,309	*45,692	*—50%	8,995	*4,439	*—51%
June	1,004	1,238	+23%	2,229	2,573	4,002	3,955	+66%	71,512	113,570	+59%	8,649	12,177	+41%
Totals	14,654	†10,452	†—29%	26,259	27,135	†22,281	†23,421	†—14%	1,116,979	†887,092	†—21%	140,828	†93,540	†—34%
				53,394		†45,702								

*Large scale curtailment of operations from March 25 to May 20, 1939, while runway resurfacing was in progress.

†See "Remarks Concerning San Francisco Airport Traffic Figures" on adjoining page.

MACHINE SHOP BUILDING
The one-story structure on the right was added during the year. It houses washrooms and adds other facilities to the main machine shop building.

San Francisco Airport Traffic Figures:

A word of explanation should accompany the San Francisco Airport traffic figures set forth in an adjoining table. Although the totals themselves are impressive, and although decided increases are shown for the last month of the fiscal year, decreases are shown for the twelve months' period as a whole. Three principal reasons may be given for this condition; first, closing the airport to the large "Mainliners" from March 25 to May 20, 1939, during runway construction work; secondly, the absence of a federal radio range facility at San Francisco Airport, forcing the airlines to operate under "contact" weather minimums which are much higher than those provided for "instrument" weather flying on a range; thirdly, general business conditions during 1938. Negotiations for the installation of a radio range have been carried on steadily during the year, and the facility should be in use within the next few months. The decided increases in traffic during June, 1939, give definite indication that traffic figures will mount rapidly during the next fiscal year. Airport construction work should not interfere with operations, the radio range problem will be solved, and safety measures adopted by the airlines over the entire United States when bad weather conditions prevail are proving exceptionally effective in giving the public confidence in air transportation.

PRIVATE FLYING

Pilot Training Program:

By far the greatest impetus ever given to private flying in the United States was the pilot training program proposed by the Civil Aeronautics Authority and officially approved by the President on December 27, 1938. The program calls for the training of 20,000 pilots annually at the colleges and universities of the United States. Its purpose is clearly defined by an excerpt from the Air Commerce Bulletin, Vol. 10, page 199, as follows: "Essentially, the Authority's plan simply proposes to give aviation its proper place in the vocational training system already established and functioning in the public and private schools of the country. Approximately $22,000,000 of federal funds are now expended annually on such vocational training. The increasing importance of aviation, both as an economic factor in American life and as a necessary backlog to the national defense, amply justify its inclusion in a federally sponsored vocational training program." The program will unquestionably have a far reaching effect on the future of private flying in this country, in giving the air minded youth of the nation a chance to participate actively in the industry.

During the calendar year 1938 private aircraft in the United States flew 129,359,095 miles, an increase of 20% over the year 1937. During the first six months of 1939, 1,627 airplanes were produced for domestic civil use in this country. All but about 40 of this number were for private and nonscheduled flyers. Compared to the first six months of 1938, this represents an increase of over 90% in production and sales.

Private Flying at S. F. Airport:

At San Francisco Airport great interest in private flying has been manifest by numerous arrivals and departures of itinerant planes from all sections of the country, by large enrollments in flying schools, by increased activity on the part of rental and charter services, and by good volume in aircraft sales by local distributors. Hangar space at the airport continues at a premium, pending the construction of additional hangars included in the field development program. There were 39 privately owned airplanes and 1 government owned plane permanently based at the field as of June 30, 1939. They were housed in hangars No. 1, 2, and 3, the airport's 4th hangar being occupied by Transcontinental & Western Air, Inc. A good cross section of the various aircraft models in use in the United States can be observed by visitors at San Francisco Airport.

Small Planes Popular Among Private Flyers:

Of the 1,823 airplanes manufactured in the United States during 1938 for domestic civil use only, 1,400 were small cabin monoplanes carrying only the pilot, or the pilot and one passenger. The reasons for their popularity are undoubtedly that these smaller planes are easy to fly, and are of lower initial cost and upkeep. Their sale indicates that the rank and file of the nation are becoming more and more interested in owning and operating their own aircraft, flying for pleasure and business purposes.

The state of California continues its impressive lead in private flying in the United States. Statistics published by the Civil Aeronautics Authority as of June 30, 1939, show the following figures:

As of June 30, 1939	Number of Aircraft (Excluding Gliders)	Number of Pilots *(Excluding Airline)	Number of Airports
California	1,303	4,575	169
Nearest Rival	978 (New York)	2,216 (New York)	138 (Texas)
Total for U. S. and Territories	12,210	24,983	†2,326
Percent of Total Represented by California	11%	18%	7%

*California has 147 airline transport pilots, 13% of nation's total.
†No territories included except Alaska.

LOCAL FLYING

The 40 airplanes based at San Francisco Airport as of June 30, 1939, may be divided into the following classifications, according to the purposes for which they are used:

17—Private use only
13—Flying school training
*4—Aircraft dealers' demonstrators
†3—Charter trips and scenic flights
1—Flying club
1—Skywriter
1—Government owned (C.A.A.)
—
40—Total

*Two airplanes classed under flying school training also used as dealers' demonstrators.

†Two airplanes classed under dealers' demonstrators and 11 under flying school training also used for charter trips and scenic flights.

Airplanes for Private Use:

Airplanes at San Francisco Airport used exclusively for private purposes (non-commercial) range in size from small 2-passenger craft weighing about 1,000 pounds, up to a 12-passenger twin-engined ship weighing 10,500 pounds. Several owners have replaced their equipment of a year ago by new up-to-the-minute models of improved design and higher speed. Many of these non-commercial airplanes are owned by representatives of business concerns who find them a great convenience in traveling to various sections of the country with great saving in time.

Frank Fuller Lengthens List of Record Breaking Flights:

Frank W. Fuller, Jr., who bases two airplanes at San Francisco Airport, has added several records to his list of a year ago. Following is a complete list of the records held as of June 30, 1939, all being made in his single-seater "Seversky"

NEW SERVICE BUILDING

This new structure housing automotive equipment, shops and other services, was completed during the year. Top view shows southwest elevation of building, while bottom view is of east elevation

monoplane, powered with a Twin-row Wasp engine, capable of developing 1200 horsepower at sea level.

Route	Date	Time
Los Angeles to Cleveland	Sept. 3, 1937	*7 hours 55 minutes
Los Angeles to Bendix, N. J.	Sept. 3, 1937	*9 hours 35 minutes
Vancouver to Agua Caliente	Nov. 4, 1937	4 hours 54 minutes
San Francisco to Seattle	May 25, 1938	2 hours 32 minutes
Vancouver to Oakland	May 28, 1938	3 hours 9 minutes
San Francisco to Portland	Dec. 5, 1938	2 hours 14 minutes
San Francisco to Phoenix	Dec. 16, 1938	2 hours 12 minutes
San Francisco to Los Angeles	Feb. 9, 1939	1 hour 2 minutes
San Francisco to Salt Lake City	Apr. 20, 1939	2 hours 10 minutes
San Francisco to Boise	May 4, 1939	1 hour 47 minutes
San Francisco to Denver	June 7, 1939	3 hours 22 minutes

*With stop at Kansas City.

Flying Schools:

A list of the flying schools in operation at San Francisco Airport as of June 30, 1939, together with the type of equipment in use is as follows:

Name	Equipment
Summit Flying School	2 Fleets
Marshall George Flying Service	1 Kinner
Lyon Air Service	1 Waco, 1 Ryan S-T-A, 1 Luscombe, 1 Cub
Clyde Preston	1 Rearwin
Ted Airheart	1 Stinson, 1 Pitcairn
Jack Conley	1 Taylorcraft
Paul San Martino	1 Travelair
Dennis Casey	1 Monocoupe

Flying school operators report that the government's program of training 20,000 pilots annually in the colleges and universities of the nation has already had a most favorable psychological effect on flying school work in general. Enrollments are increasing and a greater enthusiasm is apparent among students as a result of the leadership assumed by the Civil Aeronautics Authority.

Aircraft Dealers:

A list of aircraft agencies located at San Francisco Airport is as follows:

Name	Representing
Mouton & Clyde, Inc.	Beechcraft Airplanes Luscombe Airplanes RCA Radio Equipment Wolff Air Pilot Radio Compass
Franklin Rose Aircraft, Inc.	Stinson Airplanes
Howard Airplane Sales Co.	Howard Airplanes
Frank W. Fuller, Jr.	Grumman Amphibian Airplanes
Lyon Air Service	Piper Cub Airplanes Ryan Airplanes

Charter Trips and Scenic Flights:

Given impetus by the Golden Gate International Exposition on Treasure Island, charter trips and scenic flights have increased considerably during the closing months of the fiscal year. Sixteen airplanes based at San Francisco Airport are available for this type of service. Visitors to our city as well as San Franciscans themselves are taking advantage of the opportunity of viewing Treasure Island from the air, both during daylight hours and at night. San Francisco and its environs are renowned the world over for providing scenery of great beauty from the air, and the added thrill of viewing the jeweled Exposition has brought increased popularity to this type of flight.

Charter service to any point in the United States and nearby countries is provided at San Francisco Airport. Aircraft of various seating capacities, thoroughly equipped for this type of service, are available at any hour of the day or night.

Flying Club:

The San Francisco Flying Club, with an active membership of 10 pilots, operates a Fairchild 3-passenger monoplane at the airport.

Skywriter:

Smoke signs printed in the sky for advertising purposes are regularly seen over San Francisco and vicinity. The only flier engaged in this work in northern California bases his specially built plane at San Francisco Airport. The signs are printed at altitudes of 12,000 to 14,000 feet above the ground.

Government Aircraft:

A Stinson airplane owned by the Civil Aeronautics Authority is based at the airport, and is used by representatives of the airport section of the Authority, whose offices are in San Francisco.

OTHER TENANTS

United Air Lines:

The United Air Lines office at San Francisco Airport is maintained by the company's operations department in close cooperation with the traffic department. All field business of the airline is handled by the local personnel, consisting of a station manager, Mr. C. C. Robinson, and seven passenger agents. Ticket sales and validations are effected at the airport, and the handling of all passengers is the responsibility of the office. Mail and express cargo are handled largely by the city's airport personnel, under airline regulation.

Transcontinental & Western Air, Inc.

San Francisco Airport is the northern California operations base of Transcontinental & Western Air, Inc. Office headquarters are located on the mezzanine

HANGAR No. 4

This hangar, most recently constructed at San Francisco Airport, is entirely occupied by Transcontinental and Western Air, Inc., one of the major transport lines serving San Francisco.

floor of the administration building, and a ticket office is maintained in the lobby. Hangar No. 4 and the shops connected therewith are leased by the airline. The operations base is complete in every detail. Its personnel consists of Mr. H. G. Andrews, Assistant Superintendent of Pacific Division; a flight dispatcher, nine pilots (captains and first officers), four hostesses, two radio operators, two passenger agents, a maintenance chief and eleven maintenance men.

Pacific Airmotive Corporation:

Continuing its lease of the airport's airplane and engine maintenance building, Pacific Airmotive Corporation offers aircraft pilots and operators the finest service possible in the sale of airplane parts and supplies, and in repair service. The San Francisco Airport shop is the northern California base of this organization, which has long been recognized as the largest concern of its kind on the Pacific coast. It is a subsidiary of Bendix Aviation Corporation.

Wunderlich Radio Company:

In October, 1938, a radio company, specializing in aircraft installations and service, selected San Francisco Airport as its headquarters. Wunderlich Radio Company rented an office and shop in hangar No. 3, and has been busily engaged in the manufacture, sale and repair of radio equipment. Although the company specializes in aircraft radio equipment, its work is by no means limited to this field.

Airdrome Transport:

Deluxe limousine service for making plane connections continues to be offered by the Airdrome Transport Division of the Gray Line, Inc. For outgoing passengers the limousines leave the airline ticket offices in San Francisco thirty minutes prior to plane departure time, and all inbound schedules are met at the field. Limousines are also available for itinerant aircraft operators and their passengers.

Oil Companies and Mechanics:

Aviation fuel supply is sold at San Francisco Airport by the following concerns: Shell Oil Company, Standard Oil Company, Associated Oil Company, and Union Oil Company. Grades of gasoline offered include 73, 80, 87, 92, and 100 octane. Licensed aircraft mechanics are available on the field for patrons desiring their services.

ENGINEERING AND CONSTRUCTION WORK

Construction Progress at San Francisco Airport:

During the fiscal year 1938-1939 the total cost of construction work at San Francisco Airport was $1,556,745.27, divided into $746,984.24 contributed by the city primarily from the 1938 Airport Bond Fund, and $809,761.03 contributed by the federal government for W.P.A. Project No. 8718. The detail of the expenditures is shown in the table attached, and is described in the sections below more particularly itemizing each element of the work done.

The funds expended and the work accomplished during the year are the largest amounts for any one year since the inception of the airport. The ground work has been laid by actual construction for one of the first class 4 non-military airports to be built in the United States. Class 4 is the highest airport classification, denoting one designed to permit the safe operation of the largest aircraft now being used or planned for immediate future use. On completion of the present construction program this airport will be eligible for class 4 designation.

Land:

In addition to the expenditures for construction work, $126,517.00 was spent or obligated for land acquisition for the enlargement program. The land purchased, plus a relatively small area in course of acquisition for airport purposes covers a total area of 2,265.38 acres. In June, 1939, a 20.53-acre parcel of this property, fronting on both the seaplane harbor and the landplane landing field, was conveyed to the United States as a site for a Coast Guard air station. Of the remaining 2,244.85 acres, 40 acres, reserved for construction of a radio range beacon station, are located near San Mateo Point about 3½ miles southerly of the airport, and the balance, 2,204.85 acres, is the main track which includes the landing field and seaplane port and adjacent areas.

CURRENT CONTRACT AND PROJECT DATA, FISCAL YEAR 1938-1939

Contract No.	Contract or Project Designation	Contractor	Date Work Started	Time Allowed (Days)	Date Completed	Amount of Bid or Estimate	Expended During Fiscal Year	Fund
	FORMAL CONTRACTS							
44	Earth and Rock Fill (Levee for Landing Field Extension, etc.)	Macco Construction Co.	May 23, 1938	300	Mar. 17, 1939	$325,571.25	See note (a) $340,966.98	1938 Bonds
45	Dredging Channel for Levee	A. S. Dutra	May 2, 1938	180	Oct. 12, 1938	8,360.00	5,785.43	"
46	Paving (on Landing Field)	Lee J. Immel	Aug. 22, 1938	344	July 6, 1939	97,430.00	107,154.78	"
47	Landing Field Extension Fill	Macco Construction Co.	April 5, 1939	326	In progress	443,400.00	70,110.00	"
48	Dredging (Sealing Levee Around Landing Field Extension)	A. S. Dutra	Jan. 16, 1939	40	Feb. 9, 1939	4,800.00	5,264.00	"
49	Dredging (Sealing Levee Around Landing Field Extension)	A. S. Dutra	Mar. 16, 1939	30	April 5, 1939	2,400.00	2,608.00	"
	INFORMAL CONTRACTS							
	Exploration (Test Borings for Radio Range Station and Drainage Pump House)	A. S. Dutra	Oct. 14, 1938	...	Oct. 28, 1938	882.00	882.00	"
	Waterproofing Control Tower	Permanent Waterproofing Co.	Mar. 24, 1939	...	May 20, 1939	295.00	295.00	"
	Lighting Baggage Trucks	Geo. F. Brayer	May 6, 1939	...	June 30, 1939	235.00	235.00	"
	Check Room Counter	Mangrum-Holbrook & Elkus	May 19, 1939	...	June 29, 1939	397.50	397.50	"
	Lighting and Painting High Voltage Power Line	Pacific Gas & Electric Co.	Mar. 1, 1939	...	May 26, 1939	2,366.46	2,366.46	"
	Total Contracts—Formal and Informal						$536,065.15	
Project No.	**W. P. A. PROJECT**							
8718	General Improvement of Airport	Day Labor Construction	Apr. 25, 1938	1095	In progress	$2,600,000.00b $1,946,674.00	$210,919.09c 809,761.03	City (1938 Bond) Federal (W.P.A.)
	Total Value of Works Constructed During Fiscal Year 1938-1939						$1,556,745.27	

(a) Contractors' earnings during fiscal year are here considered as expended, whether actually paid or not.
(b) The project proposal form for W.P.A. Project 8718 was revised during the fiscal year to conform to the construction program.
(c) The total of the City's contribution to W.P.A. Project 8718 for the fiscal year 1938-1939 was $746,984.24, which is made up of the $210,919.09 shown above to cover expenditures for materials, equipment rental, and services furnished by the City, and $536,065.15 for the contract expenditures listed above, all of which were credited as Sponsor's contribution to the W.P.A. Project.

The landing field proper, including the airport building area, east of Bayshore Highway, occupies 560.74 acres, of which about 503.8 acres will be wholly or partially developed for landing field use in the present project, and 56.94 will remain for future development.

About 555.1 acres lying between Bayshore Highway and the Southern Pacific railroad tracks are reserved for aircraft industrial development. Under city ownership this land also forms a zone on the westerly side of the flying field in which structures can not be built that might endanger clear approach to the flying field. A small portion of this area is used for the airport remotely controlled radio station.

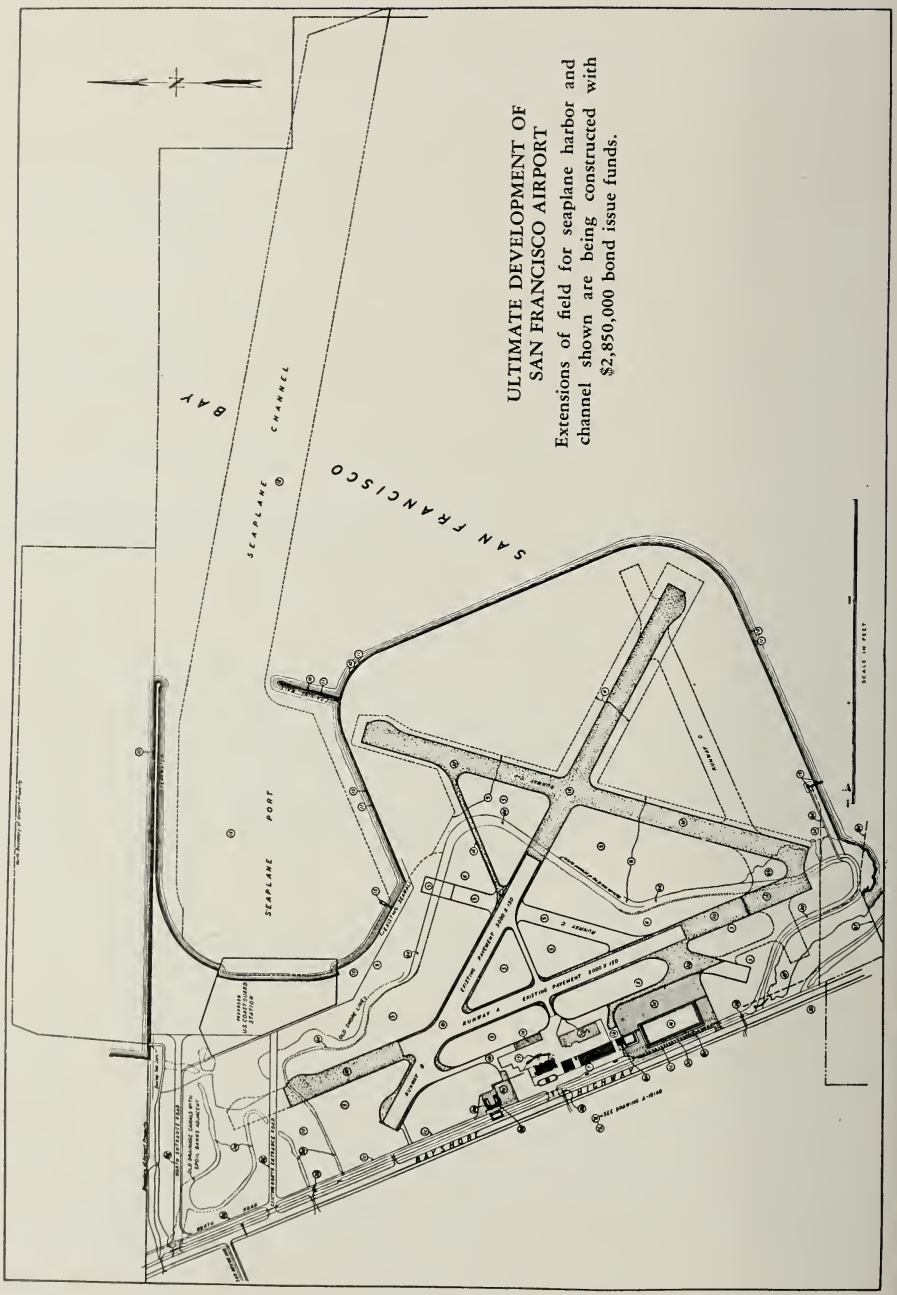
The seaplane port section occupies about 620 acres, of which 33.82 acres is now wholly or partially reclaimed and is reserved for construction of future improvements fronting on the harbor, 106.60 acres of unreclaimed property is reserved to be available for reclamation as land area for future seaplane port development, and 479.62 acres are occupied by the water area of the harbor and channel.

Bayshore Highway and San Bruno Avenue occupy 23.69 acres, included within the acreage purchased from Mills Estate, Inc.

The remaining 445.28 acres is almost entirely under water, and is reserved for possible future development and to insure clear approaches to the landing field. The approach lights of the blind landing system will also be located on this property.

The airport areas are tabulated as follows:

Landing Field: Use	Acres	Acres
Present reclaimed area, including building area east of Bayshore Highway	205.7	
Area being reclaimed with earth and rock fill	123.3	
Area to be reclaimed with mud fill from seaplane harbor and channel dredging	174.8	
Area at S.W. corner of landing field for future reclamation	17.5	
Area lying north of landing field, between present and future north entrance roads, for future reclamation	39.44	560.74
Seaplane Port:		
Area north of future north entrance road	13.77	
Area, mostly reclaimed, north of Coast Guard Station	20.05	
Area for future reclamation north of north breakwater	106.60	
Seaplane harbor area, exclusive of harbor area within Coast Guard property	123.09	
Seaplane channel and seaplane navigation area	356.53	620.04
Coast Guard Air Station		20.53
Area east of Bayshore Highway reserved for future airport development and to maintain clear approaches to the landing field		445.28
Area west of Bayshore Highway reserved for industrial development and to maintain clear approaches to landing field		555.10
Area occupied by public roads, included within acreage purchased from Mills Estate, Inc.: Bayshore Highway	20.66	
San Bruno Avenue Extension	3.03	23.69
Radio range station site near San Mateo Point		40.00
Total		2,265.38


ULTIMATE DEVELOPMENT OF
SAN FRANCISCO AIRPORT
Extensions of field for seaplane harbor and channel shown are being constructed with $2,850,000 bond issue funds.
SAN FRANCISCO BAY
SEAPLANE CHANNEL
SEAPLANE PORT
RUNWAY A
RUNWAY B
RUNWAY C
RUNWAY D
EXISTING PAVEMENT
EXISTING SEAWALL
EXISTING LEVEE
OLD HIGH LINE
MARINA BOULEVARD
BAYSHORE HIGHWAY
SCALE IN FEET

P.W.A. Project Application:

The Federal Administration of Public Works (P.W.A.) project, mentioned in last year's report, under which it was planned to construct many important improvements to the airport, has not been approved by the federal government. The application was filed in May, 1938, but, like all other 1938 P.W.A. project applications filed by the city for public utility projects, was not approved by the government. This has caused some curtailment of the airport improvement program.

W.P.A. Project 8718:

All current construction work, whether done by city contract or by day labor, is included as a portion of Works Progress Administration (W.P.A.) Project 8718.

The scope of this project was revised, effective June 30, 1939, to conform to necessary modifications of the construction program. The revised project proposal calls for a total estimated expenditure of $4,546,674.00, of which the city is to furnish $2,600,000.00, and the federal government $1,946,674.00.

The principal items of work included in the project are listed immediately below. Under the heading, "Construction Progress During Fiscal Year," the work done to date on these items is described later.

Landing field extension: Increase of the existing landing field area of 205.7 acres by the addition of 298.1 acres, of which 123.3 acres are being reclaimed by earth and rock fill, and 174.8 acres are to be partially reclaimed by mud fill dredged from the seaplane harbor and channel. The entire area of 503.8 acres will be within the earth and rock levee constructed around the landing field extension.

Runway improvement: Improving the existing paved prevailing wind runway, 150 feet wide, 3,000 feet long, by widening and lengthening the pavement to 200 feet by 6,000 feet, draining and lighting; the existing paved 150 feet by 3,000 feet, north-south runway, paralleling Bayshore Highway, by widening and lengthening the pavement to 200 feet by 5,500 feet, draining and lighting; constructing a new N.E.-S.W. runway by reclaiming, paving, draining and lighting for a paved width and length of 200 feet by 4,500; extending the existing 150 feet by 3,000 feet N.E.-S.W. runway to 3,300 feet in length, and constructing two new unpaved runways, 150 feet by about 3,000 feet, paralleling the prevailing wind runway and the north-south runway, to be used by small airplanes, thus making possible complete segregation of small plane traffic from airline traffic on the parallel principal runways, and greatly increasing the traffic capacity of the landing field.

Drainage works: Constructing a drainage pumping plant for the drainage of the entire landing field area; constructing the immediately necessary control gates, conduits, canals, pipes and other portions of the main drainage system.

Hangar: Constructing a large new hangar for the landplane port, together with necessary adjacent apron pavement, drainage, street lighting and appurtenances.

Service building: Constructing a service building, to house all airport maintenance facilities, together with necessary adjacent apron and roadway pavement, street lighting, and other appurtenances.

Increase in extent the apron pavement and the automobile parking area pavements.

Electrical work: Improving the electrical system by the addition of a standby power service connection through a new separate main electric service line from a substation different from that now serving the airport; extension of a power line to the seaplane port area, necessary at this time to supply electrical energy to the Coast Guard Station; extension of electric service connections to the new buildings, drainage pumping plant, and other new portions of the airport; construction of a contact light system for all runways to be paved; construction of a boundary light, obstruction light and flood light system for the extended landing field; construction of a control system for all field lighting; and many miscellaneous improvements.

Radio work: Improvement and extension of the ground-to-airplane communication system; construction of a radio range beacon station near San Mateo Point; construction of a blind landing system for the east-west runway.

Dredging of the seaplane harbor and channel to a depth of 10 feet below mean lower low water. (To be done by the War Department, the city paying half the cost.)

Miscellaneous improvements to buildings, landing field, electrical system, drainage system, sewerage system, water system, telephone duct system, signal system, radio system, and equipment.

Construction Progress During Fiscal Year:

During this fiscal year a total of $1,556,745.27 was expended on the project. The city contributed $746,984.24, of which $536,065.15 was for work done under contract, and $210,919.09 was for purchase of materials and equipment for work constructed by W.P.A. labor and also for engineering, inspection, supervision and overhead. The federal government contributed $809,761.03, of which $41,-359.31 was for materials, supplies and equipment, and $768,402.72 was for labor. The detail of the work accomplished is described below.

Contract No. 44: Earth and Rock Fill:

Under contract No. 44 the 9,188 linear feet of earth and rock levee around the landing field extension, and other fills, were constructed. The work was started May 23, 1938, and completed March 17, 1939. A total of 565,510 cubic yards of earth and rock was placed, of which 539,010 cubic yards were placed during this fiscal year.

The material was used for the following:	Cu. Yd.
Levee around the landing field extension, 9,188 linear feet	412,196
Roads to reach levee work	5,292
Fill on which to erect drainage pumping plant	4,812
Training wall (south breakwater) for seaplane harbor	14,300
North breakwater for seaplane harbor	88,000
Fill for northerly and northeasterly extensions of landing field	40,910
Total	565,510

The total cost of work done under contract 44 was $355,820.96, of which $340,-966.98 was expended during this fiscal year.

The successful completion of the difficult construction involved in the levee around the landing field extension and the seaplane harbor breakwaters marked the finishing of the first important step toward the completion of two of the major objectives of the current construction program, namely, the landing field extension and the seaplane harbor.

Contract No. 45: Dredging Channel for Levee:

Contract No. 45 provided for dredging channels preliminary to the construction (under contract No. 44) of the levee around the landing field extension and of the north and the south breakwaters for the seaplane harbor. Work started May 2, 1938, and was completed October 12, 1938. A total of 78,393 cubic yards of mud was dredged at a total cost of $8,192.06. Of this total, 55,093 cubic yards were dredged at a cost of $5,785.43 during this fiscal year.

Contract No. 46: Paving:

Under contract No. 46 the runway, taxiway, apron, and parking area pavements on the existing landing field were improved and increased in area. About 886,199 square feet of new 10-inch asphaltic runway, taxiway and apron pavement were constructed; 74,522 square feet of reinforced concrete apron pavement were constructed; 53,020 square feet of roadway and parking area pavement were constructed; and 990,015 square feet of existing asphaltic runway, taxiway and apron pavement were resurfaced and increased in thickness.

All existing runway and taxiway pavements were improved and increased in thickness to withstand increased loads imposed by the newer and heavier aircraft. The crown height for runways 200 feet wide was increased from 3-inch to a nominal 10-inch to improve drainage as required for the newer and faster aircraft with wing flaps. The paved area of runway A was increased from 150 feet wide and 3,000 feet long to 200 feet by 4,650 feet; that of runway B from 150 feet by 3,000 feet to 200 feet by 3,000 feet.

Runway C was paved 150 feet in width for a length of 433 feet in addition to its intersections with the north-south taxiway and runway A, making a usable paved length of 830 feet on runway C out of its total length of 3,300 feet. This pavement serves as a portion of the taxiway system, and also as an area on runway C where positive traction can be secured when brakes are applied in landing heavy aircraft. Runway C must carry all traffic for N.E. or S.W. winds for about two years until runway C-1, on the landing field extension, is completed and will be used thereafter as a landing and take-off runway for small aircraft.

Additional apron area, and the portion of the north-south taxiway extending southerly from the machine shop building apron to runway C, were paved. The curves at the intersections of runways and taxiways were increased in radius in order to facilitate the maneuvering of faster, larger and heavier aircraft.

The asphaltic pavements constructed on ground not previously paved have a waterbound macadam subgrade not less than 4 inches thick, an 8½-inch emulsified asphalt stabilized base, and a 1½-inch asphaltic concrete wearing surface. Improvement of existing pavement was governed by this or an equivalent standard. Aggregate for subgrade and pavement base was secured from the City's San Andres quarry. It was excavated, hauled and placed by day labor under

AIRPORT ENLARGEMENT

W.P.A. Project 8718. The crushed rock and sand for the armor coat was purchased by the City, and was placed in windrows by W.P.A. day labor. Forms and subgrade were constructed by W.P.A. day labor.

Under contract No. 46, the contractor furnished all emulsified asphalt, picked up the base material and the surfacing material from the windrows made on the subgrade, mixed these materials with the emulsified asphalt, and consolidated and rolled the mixed materials to form the pavement.

Work under the contract started August 22, 1938, and was completed July 6, 1939. It included the furnishing, mixing and placing of 1,061,108 gallons of emulsified asphalt and the furnishing only of 7,819 gallons of emulsified asphalt, at a total cost of $107,154.78.

Contract No. 47: Landing Field Extension Fill:

Contract No. 47 provides for placing 1,200 000 cubic yards of earth and rock fill for completing the northeasterly extension of the landing field, fill for the 3,000-ft. by 400-ft. easterly extension of runway B, fill for the 4.500-ft. by 300-ft. runway C-1, filling the unreclaimed area between the existing landing field, runway C-1 and the east-west taxiway, and other miscellaneous filling operations.

Work started April 5, 1939, and the contract requires completion on or before February 13, 1940. At the end of the fiscal year about 190,000 cubic yards of earth and rock had been placed, at a cost of $70,110.00.

The contract price of $0.369 per cubic yard for this work is exceptionally favorable to the city. The contract price includes furnishing the quarry; constructing all necessary roads outside of airport property (about 1¼ miles in length); excavation; hauling an average distance of about 2½ miles; placing, spreading and consolidating the material in the fill; and handling the water inclosed within the levee around the landing field extension by constructing and maintaining tide gates and, if necessary, by pumping.

Contract No. 47 for the landing field extension fill is the second important step toward the major objective of the current construction program.

Contracts Nos. 48 and 49: Sealing Levee Around Landing Field Extension:

Under contracts Nos. 48 and 49 the relatively pervious earth and rock levee fill, constructed under contract 44 around the landing field extension was sealed in order to make the levee water tight, by excavating mud from the bay bottom along both sides of the levee, and depositing the mud on the slopes of the levee fill.

Work under contract 48 started January 16, 1939, and was completed February 9, 1939, at a cost of $5,264.00.

Work under contract 49 started March 16, 1939, and was completed April 5, 1939, at a cost of $2,608.00.

Informal Contracts:

Exploration work. consisting of making test borings at the sites of the drainage pump house and of the radio range beacon near San Mateo Point, was done during

the period October 14 to 28, 1938, at a cost of $882.00. This work was done to secure information necessary for the design of the structures to be erected at these locations.

Waterproofing the Control Tower consisted of applying iron oxide waterproofing and refinishing around the outside of the concrete work on the fourth story of the administration building, and of doing other work to make the control tower weather-tight. This work was eliminated from the original contract for the construction of the administration building due to lack of available funds at that time. The cost was $295.00.

Lighting Baggage Trucks consisted of placing small battery-operated flood lights on two hand trucks used for servicing airliners, and of furnishing and installing a charger for recharging the batteries. The flood lights on the trucks solved the vexing problem of providing adequate lighting for the field crews engaged in loading and unloading airliners, even where such work is done on the far side of the airplane from the apron flood lights. The cost was $235.00.

The Check Room Counter was constructed in the baggage check room which adjoins the southeast corner of the administration building waiting room. It was not constructed under the general contract for the Administration Building due to lack of available funds. The counter is of oak construction to harmonize with the administration building woodwork. The cost was $397.50.

Lighting and Painting the High Voltage Power Line located about 3,600 feet west of the landing field was completed May 26, 1939. Six towers opposite the westerly end of runway B, and five towers opposite the end of runways C and C-1 were painted with alternate bands of airway orange and white, and each tower lighted with two 100-watt lamps in red prismatic globes. The lights are controlled by astronomic time switches so as to burn from sunset to sunrise, and have manual control as well. The work was done by the Pacific Gas and Electric Company at a total cost of about $5,700.00, of which the city paid $2,366.46. This work provides adequate obstruction marking of this hazard to air navigation for the first time.

Non-contract Work Under W.P.A. Project 8718:

The total cost of day labor work done under W.P.A. Project 8718 was $1,020,680.12, of which the city furnished $210,919.09, and the Federal Government $809,761.03. The latter figure comprises $41,359.31 for materials and equipment, and $768,402.72 for labor. The construction accomplished is listed below under the W.P.A. Project item numbers.

1. **Pavement on Existing Landing Field.** (See description of work under the heading Contract No. 46.) The city expended $74,524.00 on this work, in addition to the $107,155.00 expended on contract 46, and the federal government expended $183,703.00.

2. **Runway, Taxiway, Apron and Field Drains:** The field drainage system is being constructed of extra-strength vitrified pipe laid with open joints, in gravel backfilled trenches. The drainage lines paralleling the sides of runways and taxiways, and outside of landing strip areas, have the gravel backfill surface placed and rolled at field grade, and bonded with penetration type emulsified asphalt, so as to leave a porous surface capable of draining water from the field. Drainage lines not adjacent to the sides of runways and taxiways, but inside of landing strips, have the gravel fill left about 14 inches below field grade, covered

with asphalt-saturated felt, and are backfilled to the finished field grade with quarry-run macadam rock from San Andres quarry. Along the edges of runways and taxiways, at a distance of 25 feet from the edge of the pavement, inlets are placed at about 100-feet spacing to drain surface water from the field. Landing strip areas, apron areas, and areas subjected to frequent traffic, have inlets spaced about 100 feet both ways, connected to the field drainage system. The surface of the field is pitched to drain to the inlets in all areas where surface drainage is taken by inlets.

The drainage pipe system discharges at the edge of the landing field into canals leading to the drainage pumping plant, where the water is pumped into the bay.

During the fiscal year 34,285 linear feet of 6-inch to 24-inch pipe were purchased. Most of this was laid in the northerly, northeasterly and southerly portions of the landing field. Materials for 215 inlets and 24 manholes were purchased, and much of this work constructed. The drainage system required about 100 cubic yards of concrete, 18,000 brick, 5,000 tons of gravel, 3,000 gallons of emulsified asphalt, 100 rolls of 15-lb. felt, and miscellaneous materials.

The city expended $20,715.00, and the federal government $58,996.00 on this work.

3. **Drainage Canals, Removing Spoil Banks, etc.:** About 5.38 square miles of watershed, outside of the landing field, drain across airport property. This area produces a maximum run-off rate of about 1,000 cubic feet per second during a storm in which the rainfall rate is about 0.6 inch per hour. The water is discharged into the bay through a tide gate near the north boundary of the airport property. Between low tides during times of maximum run-off, the water accumulates and often produces flood conditions. A system of levees and four drainage control gates protect the flying field against flooding by this water.

Item 3 of W.P.A. Project 8718 provides for the improvement of the canals and gates to control the water originating outside of the flying field; and provides for the construction and improvement of the canals within the flying field area to conduct the water discharged by the field pipe drainage system to the drainage pumphouse.

During the fiscal year three old depreciated wooden drainage control gates were replaced by new concrete structures with steel control gates, and one new drainage diversion gate was constructed, all at a total cost to the city of $1,873.00, plus a cost to the federal government of $14,790.00.

The drainage canal system was improved, and materials for the construction of 683.00 linear feet of creosoted timber-lined canal, 14 feet wide by 8 feet deep, leading to the new drainage pumping plant location, were procured by the federal government. Construction of this canal will soon be started.

4. **Removing Boundary Levees, etc.:** The work to be done under this item is the removal of the existing levees lying between the present landing field and the landing field extensions being constructed, plus the removal of about 30,000 cubic yards of mud lying under the area to be occupied by the southerly portion of runways A and C-1. During the fiscal year substantial progress has been made on the removal of the existing levees. A contract is being prepared for the removal of the 30,000 cubic yards of mud.

5. **Subgrade Preparation and Leveling Field:** This item provides for the construction and grading of subgrade for runway and other pavements; and provides

for excavation of quarry-run rock of San Andres quarry, hauling it to the airport, spreading and consolidating it over the landing field area, and the fine grading necessary to conduct surface water to the field drainage system and to provide a smooth substantial surface for flying operations. In order to provide a field surface capable of sustaining the larger and heavier airplanes now being operated, it was necessary to place an additional thickness of this quarry-run macadam rock over much of the landing field area. During the fiscal year substantial progress was made on this work and about 70 per cent of the existing landing field area was covered and the required fine grading done. During this year the city expended about $30,000, principally for equipment rentals, and the federal government expended about $280,000, principally for labor but also for purchase of explosives and other materials, and for equipment.

6. **Field Lighting, Electric Conduit and Cable, Control Equipment, etc.:** This item provides for the electrical work required for field lighting, field lighting control, power supply, telephone duct system, and all other electrical work, except for radio, street lighting, that electrical work incorporated in the drainage pumping plant and new building construction.

During the fiscal year, the following work was accomplished at a cost of about $8,069 to the city, and $23,945 to the federal government.

(a) Conduit system for contact lights along the edges of the pavement laid on the existing landing field was largely completed;

(b) Construction of the conduit system for the new standby power service from the north was started;

(c) The high tension power line lying west of the field was lighted and painted as described above under "Informal Contracts";

(d) An underground telephone duct line was constructed adjacent to San Bruno Avenue and adjacent to Bayshore Highway from San Bruno Avenue to the north line airport property, in order to eliminate existing overhead line construction in this area; the Pacific Telephone and Telegraph Co. placed the cable in the underground system, without cost to the city; the overhead pole line along Bayshore Highway from San Bruno Avenue to the north line of airport property was removed;

(e) Plans were prepared for the duct line through which electric power will be delivered to the Coast Guard Air Station and the seaplane port, but construction was not yet started;

(f) Existing field lighting was shifted and maintained to accommodate the changing field conditions due to construction work in progress, and to provide continuously safe lighting conditions for air navigation.

7. **Landscaping:** Some landscaping was done in the landplane port building area, and the existing landscaping maintained. The cost of this work to the city was $20.00, and to the government $4,348.00.

8(a). **Service Building:** A permanent one story building 120 by 105 feet in plan, with a paved court 60 by 80 feet in plan, was constructed for permanent airport maintenance shops, stock-rooms, and equipment housing. The building is of timber frame construction, on concrete foundations, with flat sheet metal exterior wall covering painted to resemble stucco, and Spanish tile roof. It cost about $45,000.00, of which the city contributed about $4,000.00, and the Government about $41,000.00. The airport now has, for the first time, an adequate building for use in connection with maintenance.

8(b). A permanent one story building 20 feet by 20 feet in plan, with a 4 by 9 feet wing and a windbreak wall 23 feet long and 10 feet high, was constructed as an adjunct to the machine shop building. The building is of timber frame construction on concrete foundation, with flat sheet metal exterior wall covering painted to resemble stucco, and with flat composition roof. The cost of the building, exclusive of foundation (which was built prior to this W.P.A. Project), was $4,368.00, of which the city contributed $20.00, and the government $4,348.00.

8(c), 8(e), and 14. **Curbs, Walks and Utility Service Extensions:** The automobile parking area was extended northerly to include the area up to the new service building, and concrete curbs and walks were constructed in that area. The gas main, water main, electric mains, sewer, telephone duct, and street lighting system were extended northerly to connect to the service building and to serve the area in the vicinity of this building, where proposed future construction includes a garage and an automobile service station.

Two new fire hydrants and three new street lighting electroliers were installed.

The cost was $17,539.00, of which the city contributed $4,479.00, and the government $13,060.00. The utility service extensions and the curbs and walks were not entirely completed at the close of the fiscal year.

8(d). **The Main Sewer Outfall,** which discharged into the area inclosed by the levee for the landing field extension, was temporarily relocated so as to discharge into the bay south of the landing field. This work required the construction of about 1,150 linear feet of 8-inch cast-iron pipe sewer, of which 300 linear feet were supported on trestle. The cost was $3,403.00, of which the city contributed $1,253.00, and the government $2,150.00.

8(h). **The Old Administration Building** was removed, and the usable materials in it salvaged, by W.P.A. labor.

8(i). **A Heating System for the Shop and Office Space of Hangar No. 2** was constructed, using the heating plant salvaged from the old administration building. The cost was $3,557.00, of which the city contributed $120.00 and the old heating plant.

20(c). **Radio:** The ground-to-plane radio transmitting station was improved by the construction of a new antenna system. The antenna was increased in length to 200 feet, raised to a minimum of 75 feet above the ground, and red obstruction lights placed on the poles. The cost was about $2,334.00, of which the city contributed $49.00.

Miscellaneous: Much miscellaneous work, not described separately above, was done during the year.

Coast Guard Air Station:

Establishment of the United States Coast Guard air station at San Francisco Airport, mentioned in last year's report, became assured in June, 1939, when the government accepted the city's deed to 20.53 acres of property and let a contract in the amount of $513,000.00 to the Pioneer Construction Company for building a hangar, shops, barracks, seaplane ramp, wharf, and appurtenances on the site.

The conveyance of the property provides that the Coast Guard shall have the right, in common with others, to use the seaplane harbor, landing field and approach road to the seaplane port; grants an easement over a strip of land 60

feet in width, the center line of which is generally 300 feet south of the present north line of airport property, for the proposed permanent approach road to be used in common with others, and for underground telephone and gas service mains to the Coast Guard station; grants an easement along a stipulated line for the construction of a water main by the government to serve the Coast Guard station from the city's water system, the water to be paid for at prevailing rates; and agrees that the city will construct an underground electric power service line, to the Coast Guard station, connecting to the city's airport electric system, the energy to be paid for at prevailing rates.

Deeding of this 20.53 acre site to the government decreased the book valuation of airport property by $215,019.00. The cost of the land was $18,592.00, and the value of the fill and seawall, constructed by the city on the land to reclaim it, was $196,427.00. Most of the cost of the fill and seawall construction represented value contributed by the government by construction work done under W.P.A. Projects 1727 and 6683.

Plans and profiles for the service pipes and conduits to the Coast Guard station were prepared, in order to give the government definite information for the construction of these utilities.

Valuation of Airport Property:

A valuation of the existing airport property was made, which showed the value of the property as of July 1, 1938, to be $3,013,151.00, exclusive of capital under construction represented by all work done or to be done under the 1938 Airport Bond program. In this valuation the sum of $1,188,169.00 represents fixed capital donated to the airport, chiefly through the federal relief project construction work.

Preparation of this valuation report was a complex, difficult undertaking, due to the construction of many of the improvements under federal relief projects. The valuation of improvements was arrived at by making a survey of all formal contracts, informal contracts, federal relief projects constructed under C.W.A., S.E.R.A., and W.P.A., and existing improvements otherwise constructed. The cost of improvements constructed under contract was estimated as the sum of the amount paid to the contractor for the work and the appropriate cost of administration, overhead and engineering. The value of each item of improvements constructed under C.W.A., S.E.R.A., and W.P.A. projects was arrived at by estimating what the same work would have cost if done by contract, and adding the estimated value of administration, overhead and engineering (about 8 per cent of the contract value of the work). Many minor items of considerable aggregate value, probably between $50,000.00 and $100,000.00, were not listed in the inventory, as no record had been kept of the quantities or existence of many such items, and some of them might not have been built if all work had been done under contract conditions. Due allowance was made for removals and abandonments.

C. A. A. Survey Report:

On request of the Federal Civil Aeronautics Authority, a study was made of San Francisco Airport and Treasure Island Airport to furnish data to the Authority as to the contemplated ultimate development of these airports.

The Civil Aeronautics Authority, as a result of such surveys of the principal

airports in the United States, has recommended to Congress that federal assistance be given to financing of the needed improvements.

Engineering Work:

All engineering, architectural and appraisement work for the airport was done by the Bureau of Engineering of the Public Utilities Commission, of which L. T. McAfee is Utilities Engineer, L. W. Stocker is Chief Civil Engineer, and George D. Burr and A. J. Wehner are respectively designing engineer and construction engineer for the airport work.

TRAFFIC CONTROL POWER

Licensed Control Tower Operators:

In last year's annual report a letter addressed to Mayor Angelo J. Rossi and signed by Col. J. M. Johnson, Acting Secretary of Commerce, was printed verbatim. The letter requested that all operators in the San Francisco Airport Control Tower obtain federal certification to the fact that they are trained control tower operators. The request was brought about by the increased volume of air traffic around San Francisco, and the consequent need of applying safety measures for the flow of this traffic.

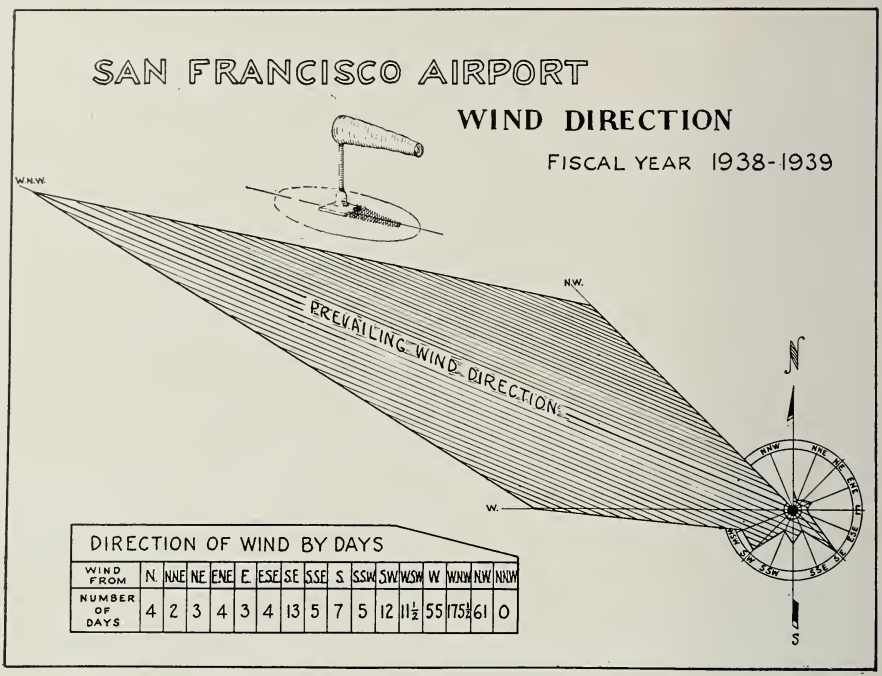
As was stated last year, seven members of the airport personnel were preparing for the federal examination as the fiscal year was brought to a close. In July, 1938, these men successfully passed the examination and each received an "Airport Control Tower Operator's Certificate of Competency." During the spring of 1939 one additional employee successfully passed the examination and received his certificate. With its operators properly licensed and with the control tower properly equipped, San Francisco Airport was classified as a "Controlled Airport," and is subject to the air traffic rules of the Civil Aeronautics Authority applicable to such major terminals.

Control Tower Operation:

The "control zone" of a controlled airport is the airspace above an area within a circle with a radius of three miles drawn from the center of the airport. Within this zone special air traffic rules apply and traffic direction is maintained by control tower operators by use of both radio communication and light signals. However, in the case of incoming radio equipped aircraft the initial traffic instructions are given the pilot when he is some 10 to 20 miles distant. These instructions include wind direction and velocity, the direction of traffic at the airport, the prevalence of other aircraft in the vicinity, and any obstructions that may be present on the field such as construction work or maintenance equipment. As the plane approaches the airport a close watch is maintained on all traffic, and final "landing clearance" is given the pilot after his entry into the control zone.

In addition to general air traffic rules, the Civil Air Regulations provide special flight rules for three classifications of weather—contact, instrument, and closed. These rules are further subdivided for various types of aircraft operation, such as scheduled airline, private, and public aircraft. It is the duty of the control tower operator to enforce the rules according to the classification of weather prevailing and the type of operation involved. He must keep traffic flowing smoothly and maintain the proper landing and takeoff sequences.

Direct communication with the Airway Traffic Control station of the Civil Aeronautics Authority is provided via interphone. This federal agency controls


SAN FRANCISCO AIRPORT
WIND DIRECTION
FISCAL YEAR 1938-1939
W.N.W.
N.W.
PREVAILING WIND DIRECTION
W.
N
S
DIRECTION OF WIND BY DAYS
WIND FROM | N. | NNE | NE | ENE | E. | ESE | SE | SSE | S. | SSW | SW | WSW | W | WNW | NW | NNW
NUMBER OF DAYS | 4 | 2 | 3 | 4 | 3 | 4 | 13 | 5 | 7 | 5 | 12 | 11½ | 55 | 175½ | 61 | 0

air traffic along the airways, and must be informed of the arrivals and departures of all scheduled airline aircraft, and all private planes that have submitted flight plans. Traffic clearances for both airline and itinerant pilots issued by the Airway Traffic Control station are relayed by the control tower operator to the pilots concerned.

WEATHER DEPARTMENT

As was mentioned in the foreword section of this report, the United States Weather Bureau established a station at San Francisco Airport on December 22, 1938. Prior to this time the City and County of San Francisco maintained a complete weather office manned by members of the airport personnel, under the supervision of the United States Weather Bureau. Increased traffic at the field and a consequent increase in the duties demanded of the airport personnel made it imperative that the federal government assume complete responsibility for the maintenance of a weather office for the benefit of pilots, operators, and the general public at the airport. Two large offices for the Weather Bureau had been provided in the design of the airport's administration building, but up to this time all weather work had been confined to the control tower due to a limited personnel. The control tower operators were licensed weather observers and performed necessary weather duties.

Not long after the arrival of the U. S. Weather Bureau personnel the regular offices were occupied by the federal agency, and have been completely equipped

WEATHER DATA

Fiscal Year 1938-1939

	TEMPERATURES					PRECIPITATION		WIND		NUMBER OF DAYS			
	Average Daily Maximum	Average Daily Minimum	Average	Absolute Highest	Absolute Lowest	Total	Greatest in 24 Hours	Prevailing Direction	*Average Velocity	Clear	Partly Cloudy	Cloudy	Rain (.01 or more)
1938													
July	68.6	52.2	60.4	81	47	Trace	Trace	WNW	13.4	26	4	1	0
August	70.1	51.4	60.7	82	48	Trace	Trace	WNW	13.2	27	4	0	0
September	71.1	52.0	61.6	90	48	0.11	0.11	WNW	12.8	18	10	2	1
October	70.0	50.4	60.2	84	40	1.09	0.48	WNW	10.2	11	11	9	6
November	64.9	42.4	53.6	75	34	0.60	0.43	WNW	8.5	17	10	3	6
December	59.8	43.5	51.6	70	35	1.68	0.60	WNW	7.0	10	10	11	7
1939													
January	58.2	41.1	49.6	64	34	2.37	1.16	WNW	8.0	6	12	13	6
February	57.5	40.4	49.0	72	32	1.24	0.52	WNW	12.6	9	11	8	7
March	59.4	44.8	52.1	81	36	2.42	1.99	WNW	10.8	9	3	19	6
April	62.5	47.2	54.8	77	39	0.40	0.39	WNW	15.2	12	10	8	3
May	64.0	49.3	56.6	78	42	0.62	0.30	W	14.7	11	13	7	3
June	66.6	49.3	58.0	82	44	0.01	0.01	WNW	16.1	22	6	2	1
Fiscal Year 1938-1939	64.4	47.0	55.7	90	32	10.54	1.99	WNW	11.9	178	104	83	46

*Average of 4 readings daily, taken at 4:30 a.m., 10:30 a.m., 4:30 p.m., and 10:30 p.m.

with new furniture, weather instruments, and teletypes. A private stairway from the offices leads to an observation well on the roof, where instruments are exposed to the elements, and observers can obtain an unobstructed view of the sky.

Weather reports from all sections of the United States, Canada, Alaska, and from ships on the north Pacific ocean are available to the flying public, and records are kept of local weather conditions. Synoptic weather maps are received from the Airway Forecast Center. Reports of the San Francisco Airport weather are transmitted hourly on the teletype circuit, and more frequently when inclement weather prevails or marked changes occur. Forecasts for the various western airways are received at six-hourly intervals, and forecasts for the five western states are received twice daily. Upper air wind reports from all sections of the United States are likewise available. Thus, complete information is provided the pilot planning a flight from San Francisco Airport.

The Weather Bureau is open 24 hours daily. Mr. R. D. Sanborn is in charge of the office and is assisted by three airway weather observers.

SAFETY AT SAN FRANCISCO AIRPORT

San Francisco Airport's impressive safety record has been maintained during the past fiscal year. In the scheduled operations of United Air Lines and Transcontinental & Western Air, Inc., no accident whatsoever occurred. Traffic records show that 45,702 passengers boarded or deplaned at San Francisco Airport during the twelve-month period. In other types of flying only one accident involving injury occurred. The pilot of a small ship was treated for bruises and was back flying the next day.

These facts are the more impressive when one considers the tens of thousands of landings and takeoffs made during the year by students, private and commercial pilots. The record shows clearly the safety of modern flying, the cautious and capable manner in which pilots handle their craft, and the diligence with which the Civil Aeronautics Authority and the airport management enforce traffic regulations.

AIRPORT PERSONNEL

As of June 30, 1939, the airport personnel was composed of 21 men, with classifications as follows: Superintendent, Mr. B. M. Doolin; Assistant Superintendent, Mr. H. S. Messersmith; a meteorologist, four control tower operators, a junior control tower operator, three crew chiefs, a clerk stenographer, a maintenance chief, five airport attendants, and three janitors. Due to a change in the meteorologist's duties, which have heretofore been divided between weather work and traffic control, this classification will be changed to senior control tower operator on July 1, 1939.

Federal regulations covering all branches of the aviation industry are annually becoming stricter. That well qualified employees must make up the personnel of

a major air terminal is recognized, and it has been the policy of the San Francisco Airport management to keep the quality and efficiency of its employees on the high plane demanded.

EVENTS

Reception for Douglas Corrigan:

On September 14, 1938, an official civic welcome to the city of San Francisco was tendered Douglas Corrigan, "wrong way" flier who earlier in the year inaugurated a flight from New York to Los Angeles and landed in Ireland. At 11 o'clock in the morning he landed his somewhat antiquated "Robin" airplane at San Francisco Airport, and was greeted by Mayor Angelo J. Rossi, President Leland W. Cutler of the Golden Gate International Exposition, Chairman Ted Huggins of the Exposition Promotion Committee, a large group of civic officials, and a throng of San Francisco well wishers. Following a luncheon in his honor at the airport, a parade was staged through San Francisco, and a civic program lasted throughout the day. During the Golden Gate International Exposition his trans-Atlantic plane is on display in the Hall of Aviation.

Program Celebrates TWA's Extension to Phoenix:

Just prior to the inauguration of direct airline service between San Francisco and Phoenix, Arizona, last November 1, a delegation from the Phoenix Chamber of Commerce were guests of the San Francisco Chamber of Commerce. Two special TWA transports were used to fly the Phoenix representatives to and from San Francisco.

SCHEDULE No. 1

SAN FRANCISCO AIRPORT

BALANCE SHEET—JUNE 30, 1939

ASSETS

Fixed Capital:		
In service	$2,875,541.46	
Land Purchase Commitment (Contra)	105,000.00	
Under Construction (1938 Airport Bond Fund)	859,345.24	
	$3,839,886.70	
Less Reserve for Depreciation	278,900.72	$3,560,985.98
Cash:		
Operating Fund	$17,893.81	
1938 Bond Fund	783,598.95	
1938 Bond Interest Fund 2%	92,576.77	
1938 Bond Interest Fund 1¾%	2,668.75	
1938 Bond Interest Fund 1.7%	7,121.11	
Revolving Fund	200.00	904,059.39
Accounts Receivable:		
Accounts Receivable	$8,416.21	
Less Reserve for Bad Accounts	3,500.00	4,916.21
Inter-Fund Accounts:		
General Fund—Taxes Receivable, 1938-1939	$2,358.83	
General Fund—Taxes Receivable, 1937-38 and prior	2,212.21	
	$4,571.04	
Less Reserve for Uncollectible Taxes	962.23	3,608.81
Deferred Charges:		
Materials and Supplies	$1,511.63	
Prepaid Insurance	1,667.38	
Outstanding Encumbrances (Contra)	376,342.60	
Suspense Debits	200.38	379,721.99
		$4,853,292.38

LIABILITIES

Bonded Debt:		
1938 Airport Bonds dated January 1, 1938: Interest rate not to exceed 6%; due January 1, 1940 to 1949 inclusive, at the rate of $285,000.00 per year Bonds Authorized	$2,850,000.00	
Less: Unissued	1,245,000.00	
Bonds Outstanding (Details annexed)		$1,605,000.00
Bond Interest Payable:		
Accrued—Not Due—1938 Airport Bonds		14,693.75
Land Purchase Commitment: (Contra)		
Purchase Price of Land, payable $105,000.00 per year from September, 1930 to 1939, inclusive	$1,050,000.00	
Less payment to Date	945,000.00	105,000.00
Accounts Payable:		
Warrants Outstanding—Operating Fund	$1,762.50	
Warrants Outstanding—Bond Fund	1,009.88	
General Creditors	12,805.10	
Contract Payments Due	84,837.83	
Contract Retentions	7,011.00	
Outstanding Encumbrances (Contra)	376,342.60	483,768.91
Inter-Fund Accounts:		
Operating Fund Owes Public Service Enterprises	$4,558.36	
Operating Fund Owes General Fund	985.36	
Bond Fund Owes Public Service Enterprises	6,259.11	
Bond Fund Owes Public Utilities Commission Bureau of Engineering	2,937.36	14,740.19
Deferred Credits:		
Suspense Credits		282.88
SURPLUS		
Detail Schedule Annexed		2,629,806.65
		$4,853,292.38

SCHEDULE No. 2

SAN FRANCISCO AIRPORT

INCOME ACCOUNT
FOR TWELVE MONTHS ENDED JUNE 30, 1939, AND 1938

	Twelve Months Ended June 30		Increase or
REVENUES	1939	1938	*Decrease*
Rental—Hangar	$13,354.78	$13,002.97	$351.81
Rental—Shop	4,317.55	3,756.20	561.35
Rental—Office	1,393.00	1,372.88	20.12
Rental—Locker	70.00	73.00	*3.00*
Gasoline Sales Commission	1,021.61	933.84	87.77
Handling Charges	30,365.12	44,562.40	*14,197.28*
Telephone Income	170.95	607.19	*436.24*
Other Income	592.21	329.06	263.15
Total Revenues	$51,285.22	$64,637.54	*$13,352.32*
EXPENSES			
Salaries—Permanent	$43,639.84	$43,644.98	*$5.14*
Salaries—Temporary	1,065.70	290.00	775.70
Gas and Electricity	7,871.34	7,301.92	569.42
Telephone, Telegraph and Postage	3,586.89	4,379.54	*792.65*
Materials and Supplies	4,293.78	4,823.20	*529.42*
Provision for Bad Accounts	300.00	600.00	*300.00*
Provision for Depreciation	64,354.30	24,000.00	40,354.30
Traveling	296.20	123.25	172.95
Transportation of Employees	3,464.57	3,422.18	42.39
Maintenance and Repair—Buildings and Structures	249.42	579.21	*329.79*
Maintenance and Repair—Automobiles and Motorcycles	763.46	1,096.39	*332.93*
Maintenance and Repair—Miscellaneous Equipment	1,197.96	646.74	551.22
Insurance	1,918.23	2,327.42	*409.19*
Miscellaneous Contractual Services	1,127.30	1,509.10	*381.80*
Taxes	3,134.14	2,858.04	276.10
Services—Bureau of Engineering	2,286.79	787.32	1,499.47
Contributions to Retirement System	1,722.46	1,469.12	253.34
Bond Interest	866.67	2,946.66	*2,079.99*
Miscellaneous Expense	1.41	190.89	*189.48*
Total Expense	$142,140.46	$102,995.96	$39,144.50
Net Loss	$90,855.24	$38,358.42	$52,496.82

SCHEDULE No. 3

SAN FRANCISCO AIRPORT

SURPLUS ACCOUNT

FOR TWELVE MONTHS ENDED JUNE 30, 1939

Surplus—June 30, 1938			$1,568,746.84
Contribution:			
From General City—Taxes	$179,728.94		
—Surety Bond Premiums	120.00	$179,848.94	
From Emergency Reserve		14,898.95	$194,747.89
Donations in Connection with and Revaluations of Fixed Capital in Service			1,188,482.90
Bond Premium 1938 Airport Bonds (Lot 2)			561.20
Bond Premium 1938 Airport Bonds (Lot 3)			1,885.00
Adjustment of Taxes as of June 30, 1938			61.76
			$1,385,738.75
Additions to Profit and Loss of Prior Years			1,903.80
			$1,387,642.55
Deduct:			
Land Deeded to United States Government for Coast Guard Aviation Station	$214,038.00		
12" Water Main transferred to San Francisco Water Dept.	21,644.42		
Old Buick and Launch Transferred to S. F. Water Dept.	45.08		
Loss for Twelve Months Ended June 30, 1939	90,855.24	326,582.74	
Net Additions to Surplus			1,061,059.81
Surplus—June 30, 1939			$2,629,806.65

SCHEDULE No. 4

SAN FRANCISCO AIRPORT

DETAIL OF INTER-FUND ACCOUNTS—JUNE 30, 1939

			Balance June 30, 1939
Operating Fund Owes Hetch Hetchy Water Supply:			
Hetch Hetchy Expenditures for Airport Capital Improvements to June 30, 1935.		$15,636.57	
Less: C. C. T. V. 216—October 7, 1937		12,339.42	$3,297.15
Operating Fund Owes San Francisco Water Department:			
4/30/38	Insurance Premiums—1936-1937 Audit Report	$113.63	
6/30/39	Auto Repairs and Maintenance—January 1 to June 30, 1939	274.48	388.11
Operating Fund Owes Public Utilities Commission—Bureau of Engineering:			
6/30/39	Office Engineering—January 1 to June 30, 1939		873.10
Operating Fund Owes Retirement System:			
5/31/39	Matching Contributions for the Month of May, 1939	$139.06	
6/30/39	Matching Contributions for the Month of June, 1939	133.02	
6/30/39	Medical Service No. 2929	12.50	284.58
Operating Fund Owes General Fund:			
6/30/39	Pacific Gas and Electric Company—Bill for the Month of June, 1939		655.15
Operating Fund Owes Purchasing Department:			
3/25/38	1-592 Walnut Posture Chair (exchange), P. O. 53041	$11.33	
10/23/37	Difference in Price on 2 Walnut Letter Files, P. O. 56704	34.30	45.63
Bond Fund Owes Hetch Hetchy Water Supply:			
6/30/39	Field Engineering in Connection with Plans, Specifications and Supervision of W. P. A. Work for the Months of May and June, 1939		6,259.11
Bond Fund Owes Public Utilities Commission—Bureau of Engineering:			
6/30/39	Office Engineering in Connection with Plans, Specifications for the Months of May and June, 1939		2,937.36
	Total		$14,740.19

SCHEDULE No. 5

SAN FRANCISCO AIRPORT

1938 AIRPORT BONDS—OUTSTANDING JUNE 30, 1939

Amount	Numbers Inclusive	Maturity	Interest Rate
$65,000.00	1– 65	January 1, 1940	2 %
31,000.00	66– 96	January 1, 1940	1¾ %
65,000.00	97– 161	January 1, 1940	1 7/10 %
65,000.00	286– 350	January 1, 1941	2 %
31,000.00	351– 381	January 1, 1941	1¾ %
65,000.00	382– 446	January 1, 1941	1 7/10 %
65,000.00	571– 635	January 1, 1942	2 %
31,000.00	636– 666	January 1, 1942	1¾ %
65,000.00	667– 731	January 1, 1942	1 7/10 %
65,000.00	856– 920	January 1, 1943	2 %
31,000.00	921– 951	January 1, 1943	1¾ %
65,000.00	952–1016	January 1, 1943	1 7/10 %
65,000.00	1141–1205	January 1, 1944	2 %
31,000.00	1206–1236	January 1, 1944	1¾ %
65,000.00	1237–1301	January 1, 1944	1 7/10 %
65,000.00	1426–1490	January 1, 1945	2 %
30,000.00	1491–1520	January 1, 1945	1¾ %
65,000.00	1521–1585	January 1, 1945	1 7/10 %
65,000.00	1711–1775	January 1, 1946	2 %
30,000.00	1776–1805	January 1, 1946	1¾ %
65,000.00	1806–1870	January 1, 1946	1 7/10 %
65,000.00	1996–2060	January 1, 1947	2 %
30,000.00	2061–2090	January 1, 1947	1¾ %
65,000.00	2091–2155	January 1, 1947	1 7/10 %
65,000.00	2281–2345	January 1, 1948	2 %
30,000.00	2346–2375	January 1, 1948	1¾ %
65,000.00	2376–2440	January 1, 1948	1 7/10 %
65,000.00	2566–2630	January 1, 1949	2 %
30,000.00	2631–2660	January 1, 1949	1¾ %
65,000.00	2661–2725	January 1, 1949	1 7/10 %
$1,605,000.00			

SCHEDULE No. 6

SAN FRANCISCO AIRPORT

COMPARISON OF ACTUAL REVENUES AND EXPENDITURES WITH BUDGET ESTIMATES
FISCAL YEAR 1938-1939

DESCRIPTION	Month of June, 1939 Budget	Revenues Expenditures Accruals	Increase or Decrease	Twelve Months to June 30, 1939 Budget	Revenues Expenditures Accruals	Increase or Decrease
Salaries—Permanent	$3,640.00	$3,635.00	*$5.00*	$43,680.00	$43,639.84	*$40.16*
Salaries—Temporary	100.00	.....	*100.00*	1,200.00	1,065.70	*134.30*
Contractual Services—						
Telephone, Telegraph and Postage	416.64	232.87	*183.77*	4,999.68	3,586.89	*1,412.79*
Traveling	70.82	161.95	91.13	849.84	296.20	*553.64*
Transportation of Employees	285.00	292.26	7.26	3,420.00	3,464.57	44.57
Maintenance and Repairs: Buildings and Structures	20.82	37.68	16.86	249.84	249.42	*.42*
Maintenance and Repairs: Automobiles	89.57	276.73	187.16	1,074.84	763.46	*311.38*
Maintenance and Repairs: Miscellaneous Equipment	87.50	244.40	156.90	1,050.00	1,197.96	147.96
Miscellaneous Contractual Services	57.93	170.21	112.28	695.16	1,127.30	432.14
Heat, Light and Power	750.00	655.15	*94.85*	9,000.00	7,871.34	*1,128.66*
Materials and Supplies	291.68	628.41	336.73	3,500.16	4,293.78	793.62
Insurance	32.18	57.38	25.20	386.16	410.33	24.17
Contribution to Retirement System	137.93	133.02	*4.91*	1,655.16	1,722.46	67.30
Taxes	291.68	261.17	*30.51*	3,500.16	3,134.14	*366.02*
Services of Bureau of Engineering	125.00	873.10	748.10	1,500.00	2,286.79	786.79
Bond Interest and Redemption—						
1933 Airport Bond Interest	.....	.....	.....	1,040.00	1,040.00	.....
1933 Airport Bond Redemption	.....	.....	.....	52,000.00	52,000.00	.....
1938 Airport Bond Interest	9,500.00	2,448.98	*7,051.02*	114,000.00	26,327.12	*87,672.88*
Total Expenditures	$15,896.75	$10,108.31	*$5,788.44*	$243,801.00	$154,477.30	*$89,323.70*
Total Revenues	$5,409.60	$4,447.18	*$962.42*	$63,800.00	$51,285.22	
From Emergency Reserve (Board Supervisors Res. 4247, dated December 19, 1938, Bill No. 1781, Ordinance No. 9.051530, dated December 19, 1938)				15,000.00	15,000.00	
				$78,800.00	$66,285.22	*$12,514.78*
Net Savings on Budget Estimate			$4,826.02			$76,808.92

NEW BAY BRIDGE TERMINAL

Located at Mission and Fremont Streets, the new interurban terminal to a large extent replaces in usefulness the ferry building at the foot of Market Street. One-half of the Municipal Railway cars which formerly operated to the ferry building now serve the terminal over a new track looping from Market Street, constructed at a cost of $150,000. Bay Bridge in background.

MUNICIPAL RAILWAY OF SAN FRANCISCO

FRED BOEKEN

Manager

FRED BOEKEN
Manager, Municipal Railway

General:

The Municipal Railway at the close of this fiscal year on June 30, 1939, was in its twenty-seventh year of operation. In the fiscal year just ended travel increased to such an extent that all previous records for the number of passengers carried, passenger revenue and net profit earned for any fiscal year since the start of operations on December 28, 1912 were exceeded. Total passengers carried were 107,739,849, an increase of 17,449,330 or 19.33 per cent over the highest previous total for any one year. Passenger revenue amounted to $4,107,365, exceeding by $553,773 or 15.58 per cent the amount for the highest preceding year. Net profit was $392,275, an increase of $70,769 or 22.01 per cent as compared with the previous highest yearly net profit.

This large increase in business can be attributed mainly to two causes. The first is the difference in fares in effect during the year between the Municipal Railway which was 5 cents during the entire year and the Market Street Railway Company which was 7 cents or four rides for 25 cents for the period July 1 to December 31, 1938 and which was a 7 cent straight cash fare from January 1, 1939 to June 30, 1939. The second cause is the increased travel due to the Golden Gate International Exposition which opened on Treasure Island on February 18, 1939. To June 30, 1939 exposition travel accounted for an average daily increase in cash passenger receipts of $800. From July 1 to December 31, 1938 while the 7 cent or four for 25 cents rate of fare was in effect on the Market Street Railway, which is the largest competing railway to the Municipal Railway in San Francisco, the Municipal Railway's daily cash passenger receipts increased about $1,500 per day as compared with the same period in the previous year when the rate was 5 cents with a 2 cent transfer charge. When the Market Street Railway Company again changed the rate of fare on January 1, 1939 to 7 cents straight with free transfer privilege, the Municipal Railway's daily cash passenger receipts were increased an additional $600 per day.

Construction of the Bay Bridge Loop which serves the Bay Bridge Terminal and connects with the street railway tracks on Market Street was completed during the year. The cost of construction of this loop which was paid for from the funds of the Municipal Railway was $154,046. The Market Street Railway Company uses the facilities of this loop jointly with the Municipal Railway, and in

MUNICIPAL BUSES

At the close of the fiscal year the Municipal Railway operated a fleet of 31 urban buses of the type shown. Building in background is used as a bus garage and maintenance station.

accordance with an agreement entered into between the Market Street Railway and the Public Utilities Commission agrees to pay the Municipal Railway an annual rental of 10 per cent of one-half the cost of construction and in addition a proportion of the maintenance expense in accordance with the use of facilities. The annual rental has been fixed at $7,702. Operation of street cars over the Bay Bridge Loop commenced on January 15, 1939, on which date the trains commenced operation over the Bay Bridge. During the period January 15 to June 30, 1939, the Market Street Railway Company paid to the Municipal Railway a rental of $3,561 and a proportion of maintenance cost of $2,867. Due to a loss of short haul business previously received from operation to the Ferry Terminal, operation to the Bridge Terminal has resulted in a daily decrease of cash passenger receipts of $600.

The net profit from operations for the fiscal year ended June 30, 1939 amounted to $392,275. This is after providing the amount of $343,281 for depreciation and $124,306 for a reserve for accidents. After providing for bond redemption, there remained a cash surplus of $292,275. This surplus together with additional funds which may be accumulated in the future will be available to enable the Public Utilities Commission to extend feeder bus routes to districts of the city now badly in need of transportation and to provide for needed capital expenditures. It is certain that the Municipal Railway's operations for the balance of the Golden Gate International Exposition which will close on December 2, 1939 will be very profitable. It is to be expected that the close of the exposition will result in a decrease in travel, but improving business conditions in San Francisco augur that operations will continue to be profitable.

Operating revenue for the year was $4,143,549, an increase of $670,669 or 19.31 per cent over the preceding year.

Operating expenses (not including reserves or bond interest) amounted to $3,215,883, an increase of $285,736 or 9.75 per cent. Wage scales remained the same as in the previous fiscal year, and the increase in car hours operated to provide for the large increase in business account for this increase in operating expenses.

In considering the net income of $392, 275 above noted, it must be remembered that the Municipal Railway still maintains a wage schedule for per diem employees which is substantially higher than the average paid by private street railway companies.

Comparison of the budget estimate with actual results of operation for the fiscal year show an increase in estimated receipts of $254,955 and a decrease in expenditures of $35,105, a net saving on the budget estimate of $290,060.

The only indebtedness now against the Municipal Railway property is the Municipal Railway bond issue of 1913, originally issued for $3,500,000 of which $1,400,000 is still outstanding, this amount to be amortized at the rate of $100,000 per year for the next fourteen years.

The number of employees as of June 30, 1939 was 1,285, an increase of 59 over the same day in 1938. The increase is due mainly to additional platform men who were required to operate the increased schedules which were provided to accommodate the increased patronage.

The retention of the 5 cent fare with free transfer privilege on the Municipal Railway lines has afforded the car riders of this system a large saving during the year. As the average fare on street railways in the United States is about 8.33 cents, it is conservative to estimate this saving to the riders served by the Municipal Railway for the past year at over $2,700,000.

The total mileage operated by the Municipal Railway cars and buses during the year was 9,810,068 miles and is an increase of 597,381 miles or 6.48 per cent over the previous year. Car and bus hours operated totaled 1,003,126 hours, an increase of 83,448 hours or 9.07 per cent as compared with the previous year. The total number of passengers carried was 107,739,849, an increase of 17,449,330 or 19.33 per cent over the previous year.

Bus line operations for the year resulted in a loss of $73,368 as compared with a loss of $85,646 for the preceding year. This is a reduction in net loss of $12,278 and is accounted for by an increase in revenue of $9,158 and a decrease in total expense of $3,120. Mileage operated was $769,921 which was a decrease of 8,036 miles under the previous year. Route No. 1—Park Route decreased 25,753 miles due to a longer temporary rerouting in the previous year. Route No. 4—Embarcadero Route increased 173 miles. Route No. 5—Marina Route increased 4,189 miles, and Route No. 6—Eureka-Diamond Route increased 13,355 miles. Total bus passengers carried were 4,987,411, an increase of $473,141 over last year.

Bus Route No. 4, the Embarcadero Route, operated at a profit of $4,934, which is the second year in the twelve and one-half years of operation that this bus route has shown a profit, and is due to the fact that the buses and equipment in the capital set up for this route are fully depreciated, and no depreciation charge was included in the expenses for this year. In prior years, when depreciation was being charged, the average loss was $6,688 per year. In accordance with an agreement between the City and County of San Francisco and the State Board of Harbor Commissioners, the Municipal Railway is subsidized for the loss in any

BUS SERVICE EXPANDED
Five new auto bus routes were added to the Municipal Railway system during the year, bringing total routes in operation to 9. Further expansion is indicated.

one year up to $18,000. As no loss is shown for this fiscal year there is no payment due.

An appropriation has been made from the surplus funds of the Municipal Railway in the amount of $228,000 for the construction of a trolley bus line on Howard Street. This includes the amount of $126,000 for the purchase of nine trolley buses and equipment and $102,000 for housing facilities, service structures, poles, and overhead wiring. Due to a taxpayers' suit which has not as yet been acted upon, these funds are not at present available.

Five new modern street cars have been ordered at a total estimated cost of $112,000. Delivery of these cars is expected to be made in October, 1939. Six old buses with an accumulated mileage of 2,159,354 miles were replaced by 6 new modern transit type coaches with a seating capacity of 32 passengers each. Total cost after allowance for old buses turned in was $61,390. Twelve additional new coaches of the same type as above were also purchased at a cost of $125,730. This increases the Municipal Railway's coach fleet from 19 to 31.

The purchase of these buses will provide feeder service to the following districts of San Francisco which are now inadequately served:

Miraloma Park District
Sunset District
Bayshore District
Ocean View District
Telegraph Hill District

MUNICIPAL STREET CARS
The Municipal Railway operates 234 cars of the type shown above. View shows cars on tracks leading into main carhouse at 2600 Geary Street.

All of these routes will be placed in operation during the months of July and August, 1939.

The Public Utilities Commission has installed an exhibit at the Golden Gate International Exposition in the San Francisco Building in which the activities of the various utilities under its control are interestingly shown. Included in this exhibit there are portrayed in graphs and pictures many facts pertaining to the Municipal Railway's operation and accomplishments. Municipal Railway funds in the amount of $5,500 were provided toward the installation and operation of this exhibit.

In accordance with the provisions of section 128 of the charter, a survey of the Municipal Railway properties for the purpose of determining the amount of a reasonable annual depreciation provision was made by accountants and engineers. As a result of this survey, the amount determined for the fiscal year was $343,281, which is 3.44 per cent of the cost of road and equipment as of June 30, 1938. An adjustment on the books of the Municipal Railway was made, charging surplus and increasing the accumulated reserve for depreciation by $590,255. As of June 30, 1939 the balance in the depreciation reserve was $6,148,629.

Twenty-Six and One-Half Years' Operation:

The Municipal Railway at the close of this fiscal year on June 30, 1939, had completed twenty-six and one-half years' operation. The total income from all sources from the start of operations on December 28, 1912 to June 30, 1939

amounted to $83,411,712, which amount includes $5,481,000 received from sale of bonds, $1,530,544 contributed, $666,732 interest received on bonds owned and daily cash balances, $70,230 received as subsidy from the Board of State Harbor Commissioners and $306,596 miscellaneous profit and loss items. Passenger and other revenue totaled $75,356,610.

The total expenditures from start of operations, December 28, 1912 to June 30, 1939 were $66,942,213, of which operating expenses amounted to $60,745,830, bond interest charges $4,227,768, payments for injuries and damages $1,820,177, and miscellaneous profit and loss charges $148,439. Bonds totaling $4,081,000 were retired out of a total of $5,481,000 issued.

Road and equipment purchased amounted to $11,378,307 of which $5,481,000 was derived from moneys received from bond sales, $4,710,072 from earnings and contributions, and $1,187,235 from the reconstruction and replacement fund.

Road and equipment retired totaled $1,045,972, leaving a balance of $10,332,335 on hand and in use.

At June 30, 1939, net cash, receivables and stores on hand, after deducting all liabilities resulted in net free assets in the amount of $1,234,629.

In the twenty-six and one-half years of operation, the Municipal Railway carried 1,878,980,462 passengers. Passenger car and bus miles operated totaled 213,843,494, and car and bus hours operated totaled 22,213,253.

Auditing and Accounting:

The accounts of the Municipal Railway are maintained in accordance with the forms and requirements of the State Railroad Commission insofar as these are applicable to publicly owned and operated utilities and also in accordance with section 64 of the charter of the City and County of San Francisco. The centralized control system installed by the controller has been merged with these accounts, with the result that no obligation may be incurred without prior certification of the controller that funds are available to discharge said obligation when it becomes due.

The cash balances of Municipal Railway funds are verified in the treasurer's office as of June 30, and with the exception of settlements for injuries and damages provision has been made for all ascertained liabilities outstanding on June 30, 1939.

The accounts and activities of the Municipal Railway are audited currently by the Municipal Railway auditing staff, and frequent audits on various phases of the railway operations are made by forces of the controller's office. In addition to the above an annual audit is made by a private certified public accounting firm.

Maintenance of Track and Roadway:

The usual high standard of maintenance in effect on the Municipal Railway's properties has been maintained during the fiscal year with the result that over 3,250 lineal feet of single track was reconstructed, 70,670 square feet of concrete paving base 7 inches deep, placed, and 136,837 square feet of asphalt paving

renewed. The thermit welding process of repairing broken rails was continued during the year, and a total of 700 welds were made.

During the year 7.63 miles of overhead trolley wire was replaced at a cost of $8,757.

Trolley line repairs.

New Construction:

The only new construction work performed during the year was the Bay Bridge Loop which totals .97 of a mile of single track. This construction was started in November, 1938, and completed in January, 1939. The installation was performed under contract M. R. No. 178. It serves the Bay Bridge Terminal and forms a connecting loop from Market and First Streets to the Terminal and thence to Market and Fremont Streets. The total cost amounted to $154,046 and was paid out of Municipal Railway funds. The facilities are jointly used by the Market Street Railway Company and the Municipal Railway. The Market Street Railway pays an annual rental of $7,702 and a proportion of maintenance expense in accordance with the use of facilities.

Reconstruction and Replacements:

Two major track reconstruction jobs were undertaken during the fiscal year. On Judah Street between Eighteenth and Twentieth Avenues two blocks of double track were removed and relaid due to heavy grade changes on account of the widening of Nineteenth Avenue. The work involved the laying and removal of temporary track and the reconstruction of permanent track. Work extended from July to September, 1938 and was performed under contract No. 175, replacement job No. 1320. The total cost was $9,839.

Under contract No. 182, replacement job No. 1357, two miles of track in the Twin Peaks Tunnel were reconstructed. The total estimated cost was $40,000. Work was started on May 22, 1939 and was about 53 per cent completed as of June 30, 1939.

Under replacement job No. 1328 six old type buses with an accumulated mileage of 2,159,354 miles were replaced by six modern transit type coaches with a seating capacity of 32 passengers each. The total cost after allowance for old buses was $61,390.

Expenditures for reconstruction and replacements for all classes of Municipal Railway properties including the above were as follows:

Amount expended 1937-38 (Incomplete jobs)	$11,450
Amount expended 1938-39 Reconstruction and Replacement Fund (Exhibit "C")	140,976
Amount expended 1938-39 Operating Fund	351
Total	$152,777

The various jobs making up this total are listed below:

Replacement Job No. 1287—Frog in Market Street and Duboce Avenue layout. Total cost	$502
Replacement Job No. 1301—Crossing—Cabrillo and La Playa Streets. Cost to June 30, 1939	979
Replacement Job No. 1302—Crossing—Stockton and Post Streets—Crossing replaced by straight rail. Total cost	839
Replacement Job No. 1307—Portion of crossing at Market and Fourth Streets. Total cost $2,159 Less Paid by Market Street Railway 1,173	986
Replacement Job No. 1313—Crossing—Outbound—Market and Ninth Streets. Total cost	2,990
Replacement Job No. 1317—Branchoff — Columbus Avenue at Union Street. Total cost	1,254
Replacement Job No. 1320—Contract No. 175—Judah Street from Eighteenth to Twentieth Avenues. Relaying tracks. Work involved laying and removing of temporary tracks on south side of Judah Street due to heavy grade changes account of widening of Nineteenth Avenue. Total cost	9,839
Replacement Job No. 1321—Rails—Twin Peaks Tunnel. Total cost	1,933
Replacement Job No. 1324—¼ of Crossing at Geary and Powell Streets. Total cost	2,903
Replacement Job No. 1334—Branchoff—Van Ness Avenue and Union Street. Total cost	1,340
Replacement Job No. 1335—Portion of crossing at Van Ness Avenue and Washington Street. Total cost	1,823
Replacement Job No. 1345—Switch and connecting rails—Geary Street west of Van Ness Avenue. Total cost	1,146
Replacement Job No. 1348—Switch and connecting rails—Geary Street and Thirty-third Avenue. Total cost	1,161
Replacement Job No. 1349—Crossing—Market and Eighth Streets. Total cost	4,269

Replacement Job No. 1350—Portion of crossing—Van Ness Avenue and Jackson Street. Total cost	1,934
Replacement Job No. 1353—Four frogs—Market and Church Streets. Total cost	2,169
Replacement Job No. 1354 — Three manganese steel track castings—Geary and Van Ness Avenue. Total cost	1,980
Replacement Job No. 1357—Contract No. 182. Relay 2 miles of track in Twin Peaks Tunnel. 53% completed. Cost to June 30, 1939. Total estimated cost $40,000.	26,192
Replacement Job No. 1358—Portion of crossing — Market and Fourth Streets—Market Street Railway to pay one-half of cost. Cost to June 30, 1939	371
Replacement Job No. 1359—Manganese steel track casting—Geary and Van Ness Avenue. Total cost	869
Replacement Job No. 1360 — Replacing crossover with girder rails—Greenwich Street between Baker and Lyon Streets. Total cost	1,007
Replacement Job No. 1363—Mate casting at Branchoff, Duboce Avenue. Total cost	488
Replacement Job No. 1364—Mate casting and connecting rails—Stockton Street south of Geary. Total cost	634
Replacement Job No. 1366—Track casting—Market and 12th Street. Total cost	534
Miscellaneous Replacement Jobs—Paving. Total cost to June 30, 1939	3,843
Miscellaneous Replacement Jobs—Overhead Wiring. Total cost to June 30, 1939	9,513
Replacement Job No. 1328—Six buses which had been in service from 8 to 12 years replaced by six modern transit type coaches with a seating capacity of 32 passengers each. Total cost less allowance for old buses.	61,390
Replacement Job No. 1346—Replacement of five street cars. Incidental costs to June 30, 1939	916
Replacement Job No. 1325—18 fare boxes, old style, replaced by 18 new electric fare boxes. Total cost less allowance for old fare boxes	2,508
Replacement Job No. 1342—Replacement of doors on Forest Hill Station elevator by new power-operated closures. Total cost	2,382
Replacement Job No. 1331—Replacing Studebaker sedan with Packard sedan. Total cost less trade-in allowance	2,431
Replacement Job No. 1340—Replacing Dodge sedan with Oldsmobile sedan. Total cost less trade-in allowance	708
Miscellaneous Replacement Jobs—Service equipment, furniture and miscellaneous. Total cost	944
Total	$152,777

BAY BRIDGE TERMINAL

The Municipal Railway operates directly to the new San Francisco-Oakland bay bridge terminal on Mission Street between First and Fremont Streets by a loop constructed during the year. View shows facade of terminal and 3 cars on one of the 3 sets of tracks which provide ample loading space.

Transportation:

The usual high standard of service has been furnished by the transportation department, and every effort has been made to adjust service to meet the unusual heavy passenger traffic conditions due to the continued 5 cent fare on the Municipal Railway lines and to the travel to the Golden Gate International Exposition. Schedules were arranged to serve both the Bay Bridge Terminal and the Ferry Terminal to the best advantage with present facilities.

During the year 93 changes were made in the time tables of the various lines. Car hours operated increased 85,639 car hours over the previous year while bus hours operated decreased slightly by 2,191 hours.

On January 15, 1939 the Bay Bridge trains commenced operation over the Bay Bridge. Alternate Municipal Railway cars were operated over the Bay Bridge Loop to connect with the Bridge Terminal.

On June 25, 1939, Bus Route No. 6—Eureka-Diamond Route was rerouted over Castro, Nineteenth, Eureka, Twenty-Third, Diamond, Clipper, Church, Twenty-Fifth, Collingwood, and Market Streets, adding 1.02 miles to round trip route mileage and connecting this bus route with the Municipal Railway's "J" line on Church Street.

The total passengers carried by the Municipal Railway system during the year were 107,739,849, an increase of 17,449,330 over the previous year, making the second consecutive year in which all previous records for passengers carried were exceeded.

Maintenance of Equipment:

The equipment of the Municipal Railway has been maintained in first-class condition, 50 car bodies having been overhauled and painted and 25 cars re-wheeled. Motors totaling 420 have been overhauled and repaired as were 50 units of electrical control apparatus.

During the year 57 propulsion motors and 18 air compressor armatures were rewound. The usual policy of cleaning cars daily and disinfecting weekly has been maintained throughout the year.

Bureau of Claims:

The influx of convention delegates to San Francisco during the fiscal period July 1, 1938 to June 30, 1939, and the transportation of San Francisco's residents and visitors on the Municipal Railway street cars and buses feeding the Golden Gate International Exposition which opened on Treasure Island February 18, 1939, has increased by 19.33 per cent the number of passengers using these facilities. In addition thereto, the number of out-of-town automobiles attending the opening and continuation of the exposition constitutes a genuine traffic problem.

This situation demanded and exacted from the street car and bus operators a high degree of watchfulness and efficiency. It was noticeable, however, that out-of-town automobile drivers found the traffic regulations and crowded condition of the traffic lanes traversed by Municipal Railway cars, especially on Market Street, extremely confusing, and suffered collisions which under more favorable conditions might have been avoided.

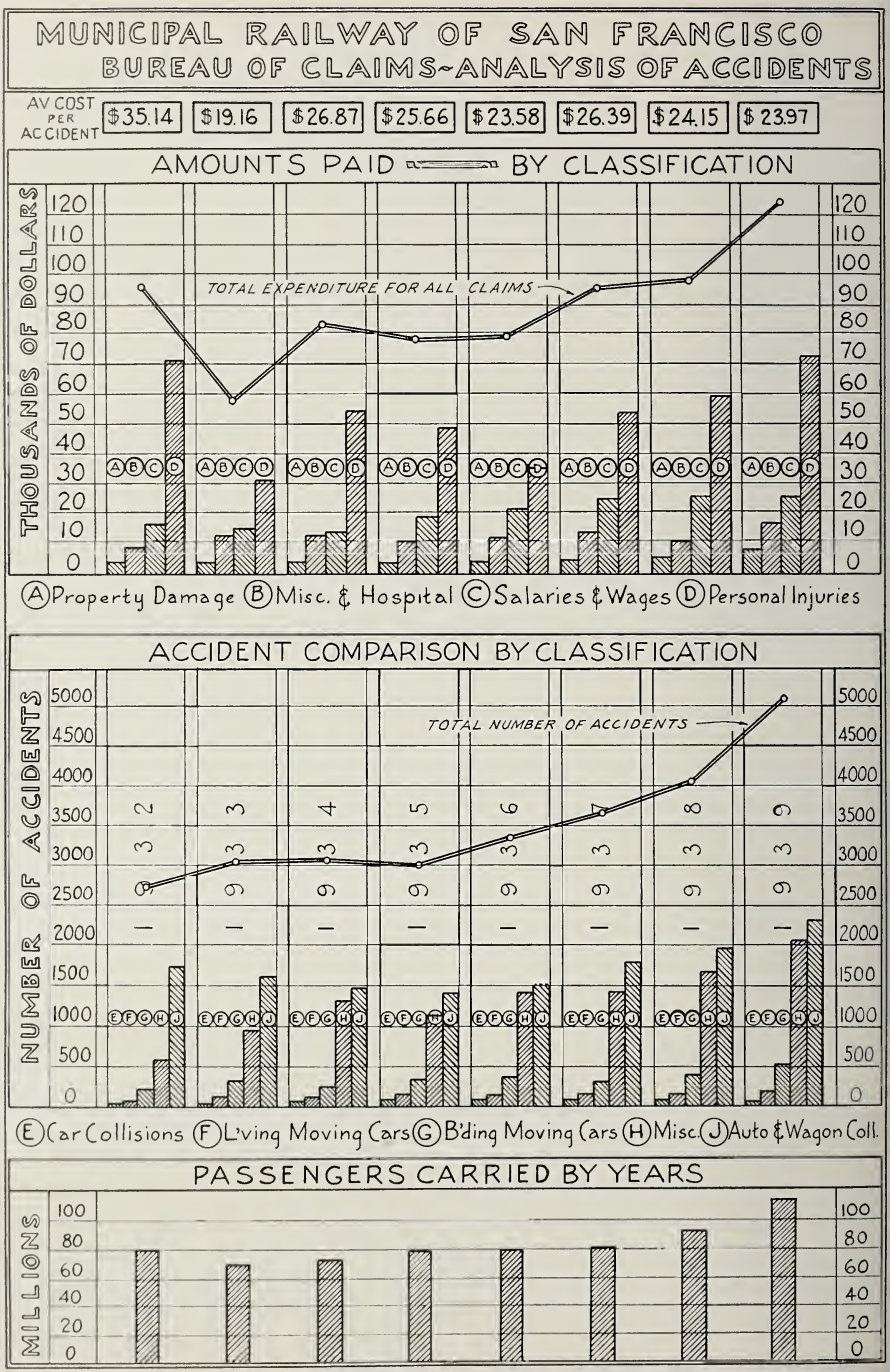
The continued 7 cent fare charged by the Market Street Railway Company on all its lines, seems to have caused a great portion of the city's population to walk a little farther and board the Municipal cars on which the fares are maintained at 5 cents. This attitude has naturally continued the increased burden on the Municipal Railway with regard to equipment, and the overcrowding of the cars and buses at peak hours has played no small part in the number of accidents resulting in personal injuries to passengers.

The accidents have been classified as in previous annual reports as follows:

> Those in which the Municipal Railway was directly involved and those occurring on or near the right-of-ways, but in which the Municipal Railway cars were not directly involved.

The following statement shows the accidents filed during the year so classified:

	CLASSIFICATION OF ACCIDENTS Municipal Railway Involved	Number of Accidents
1.	Automobile collisions	2,304
2.	Injuries to passengers	1,531
3.	Injuries to automobile occupants	(52)
4.	Injuries to pedestrians	90
5.	Damage to wearing apparel	151
6.	Street car collisions	60
7.	Broken windows	214
8.	Deaths	6
9.	Employees injured	143
10.	Miscellaneous	512


MUNICIPAL RAILWAY OF SAN FRANCISCO
BUREAU OF CLAIMS-ANALYSIS OF ACCIDENTS
AV COST PER ACCIDENT
$35.14
$19.16
$26.87
$25.66
$23.58
$26.39
$24.15
$23.97
AMOUNTS PAID BY CLASSIFICATION
THOUSANDS OF DOLLARS
TOTAL EXPENDITURE FOR ALL CLAIMS
Ⓐ Property Damage Ⓑ Misc. & Hospital Ⓒ Salaries & Wages Ⓓ Personal Injuries
ACCIDENT COMPARISON BY CLASSIFICATION
NUMBER OF ACCIDENTS
TOTAL NUMBER OF ACCIDENTS
Ⓔ Car Collisions Ⓕ L'ving Moving Cars Ⓖ B'ding Moving Cars Ⓗ Misc. Ⓙ Auto & Wagon Coll.
PASSENGERS CARRIED BY YEARS
MILLIONS

	Near Track Municipal Railway Not Involved
11. Automobile collisions	28
12. Pedestrians struck by automobiles	54
Total	5,093

The Bureau of Claims has continued its policy of endeavoring to have an investigator visit every person who has met with an injury by reason of the operation of the Municipal Railway cars or buses, regardless of the liability for that injury. It has sought to impress those visiting or communicating with the bureau that the Municipal Railway has a scrupulous concern for the welfare of the citizens of San Francisco as regards their safety as passengers on the Municipal Railway street cars and buses, or on the streets traversed by its lines. At the same time, however, the Bureau of Claims is watchful of the property and resources of this important utility against fraudulent claims for alleged injuries or damages.

The Bureau of Claims, under the direction of the Manager of Utilities, has continued its cooperation with other bureaus and departments in the investigation and settlement of claims made against all the utilities under the jurisdiction of the Public Utilities Commission.

COMPARATIVE STATEMENT OF ACCIDENT REPORTS
FISCAL YEARS ENDED JUNE 30, 1939 AND JUNE 30, 1938

Classification	Geary Division		17th Street Division	
	Fiscal Year Ended June			
	1939	1938	1939	1938
Street car collisions	24	16	36	32
Auto and wagon collisions	1,253	968	1,051	972
Boarding moving cars	245	149	266	216
Leaving moving cars	121	74	77	48
Miscellaneous	1,038	776	982	719
Total	2,681	1,983	2,412	2,091

Court Statistics:

During the fiscal year ended June 30, 1939, cases tried in the several courts showed a very satisfactory result in proportion of verdicts in favor of the Municipal Railway:

	No. of Cases	Amount Sued for	Verdict For Claimant	Percentage Paid on Amount of Claim
Superior Court	21	$450,707.74	$29,326.50	6.51%
Municipal Court	15	22,732.66	5,408.75	23.79%
Small Claims Court	4	117.50	.....	....
Total	40	$473,557.90	$34,735.25	7.33%

COMMENTS ON FINANCIAL STATEMENTS

GENERAL BALANCE SHEET

EXHIBIT "A"

For the purpose of more clearly portraying the assets and liabilities of the Municipal Railway, the balance sheet in this year's report is shown in narrative form instead of the conventional form:

PROPERTIES—LESS DEPRECIATION $4,150,643.01

Composition of this amount is as follows:

Road and Equipment	$10,297,426.10	
Analysis of this amount is given in Schedule I which reflects the additions and retirements for the fiscal year. In accordance with the survey of properties for depreciation purposes the sum of $343,280.73 has been reserved for depreciation during the current year.		
New Construction in Progress		1,846.38
This item represents costs in connection with the construction of new offices on third floor of Geary Street building and construction of waiting stations along various routes of the Municipal Railway, costs of which are incomplete as of June 30, 1939.		
	$10,299,272.48	
Deduct:		
Reserve for Accrued Depreciation		6,148,629.47
This is the amount charged to operations and credited to depreciation reserve, for depreciation of properties from December 28, 1912 to June 30, 1939, less charges for retirements. Included in the above is $590,255.23 which resulted from a depreciation survey adjustment, the charge being made to surplus.		
Net value of properties as above		$4,150,643.01

CASH WITH THE TREASURER $1,379,071.02

The funds comprising this amount are as follows:

Municipal Railway Bond Redemption Fund	$1,200.00
Municipal Railway Bond Interest Fund	12,982.50
The above two funds are maintained by transfer to meet principal maturities and bond interest as they become due.	
Municipal Railway Operating Fund	992,555.26
This fund is maintained for payment of normal expenses of operation and also contains unallocated reserves of the railway.	

Accident Reserve Fund	317.50	
An analysis of the accident reserve fund is shown in the statement of reserve funds Exhibit "C." The amount reserved for accidents during the current year was 3 per cent of the gross operating revenue. This amount has proved ample to meet all expenses incurred in connection with the settlement of accident claims.		
Reconstruction and Replacement Fund	365,515.76	
For analysis of this fund see Exhibit "C." The balances in all the above funds have been reconciled with the records of the treasurer of the City and County of San Francisco by the accounting staff of the Municipal Railway.		
Revolving Fund	6,500.00	
This fund is maintained for payment of small accident claims and expenses in connection with special investigations. During the current year this fund was increased from $4,000 to $6,500. It is in the custody of the following officers:		
Mr. Fred Boeken, Manager $1,000.00		
Mr. Thos. B. Johnson, Claims Adjuster 5,500.00		
$6,500.00		
These funds have been reconciled with certifications obtained from the depositary and found to be in balance.		
Total Cash on Hand	$1,379,071.02	
MISCELLANEOUS ACCOUNTS RECEIVABLE		$2,473.24
Due from Pacific Gas & Electric Company:		
Pole Rental	$628.00	
Due from Market Street Railway:		
Track rental and proportion of tower expense at Bay Bridge Terminal Loop	1,081.00	
Interest Receivable	764.24	
From General Fund accrued interest due to the Municipal Railway for the period April, May and June, 1939, on the daily bank balances placed on deposit by the city treasurer. In accordance with Ordinance 9870 (N.S.) Municipal Railway funds are deposited with the treasurer who in turn places same on deposit with the various banks.		
Total	$2,473.24	
INTRAFUND ACCOUNTS RECEIVABLE		$25,617.63
Amounts as follows are due between funds of the Municipal Railway:		
Due to Reconstruction and Replacement Fund from Operating Fund for loan to purchase rails, etc., for Geary Street reconstruction	$20,000.00	
Due to Operating Fund from Reconstruction and Replacement Fund for labor and materials used on reconstruction and replacement jobs	5,617.63	
	$25,617.63	

DEFERRED CHARGES		$413,845.63
Materials and Supplies at Carhouse and Storage Yard	$182,125.25	
A physical inventory was taken of the materials at the storage yard by members of the engineering department. Minor over and short adjustments were made to bring the physical count into agreement with the general ledger account.		
A perpetual inventory is maintained of the materials in the carhouse storeroom which results in material counts being made at frequent intervals and adjustments as necessary being made throughout the year. Materials on hand as of June 30, 1939 were found to be in accord with the records and all prices, extensions and footings of the inventory have been checked.		
Materials and Supplies Contributed	806.74	
This represents the balance of stores on hand which were received by reason of the abandonment of the Gough Street line by the Market Street Railway Company.		
Replacement Jobs in Progress	33,062.57	
Crossing—Market and Gough Streets	3,302.65	
Not usable due to abandonment of Market Street Railway Gough Street Line. This amount to be written off in the next fiscal year.		
Traffic Survey	55,000.00	
Amount provided from Municipal Railway funds for plans in connection with the solution of traffic problems.		
Contract, P. O., S. O., and O. W. Liability (Contra)	139,548.42	
This item represents an unadjusted debit for purchase order, service order, order for work, and contract liability on which no materials have been delivered nor services performed, but contracted for and is offset under accounts payable by a similar amount.		
	$413,845.63	
BONDED DEBT		$1,401,200.00
Funded Debt Unmatured	$1,400,000.00	
The following is a recapitulation of the unmatured funded debt:		
Municipal Railway 5%—1913		
Total issue	$3,500,000.00	
Matured to June 30, 1939	2,100,000.00	
Unmatured June 30, 1939	1,400,000.00	
Date of final maturity	Dec. 1,1952	
Matured Funded Debt Unpaid	1,200.00	
Bonds in the amount of $1,200.00 had matured prior to June 30, 1939, but had not been presented for redemption on that date.		
	$1,401,200.00	

BOND INTEREST PAYABLE $12,982.50

Interest coupons matured but not presented for payment on June 30, 1939.

BOND INTEREST PAYABLE—ACCRUED $5,833.33

Interest accrued to June 30, 1939 but not due until December 1, 1939.

ACCOUNTS PAYABLE $427,438.30

This amount consists of the following:

Unpaid Warrants Operating Fund	$120,624.73
Invoices Operating Fund Not Vouched by Controller	154,554.88
Invoices Reconstruction and Replacement Fund Not Vouched by Controller	371.07
Payrolls Not Approved to Date by Controller	2,356.15
Contract Payments Due Reconstruction and Replacement Fund	8,984.75
Contract Payments Withheld Reconstruction and Replacement Fund	998.30
Contract, P. O., S. O., and O. W. Liability (Contra)	139,548.42
Items contracted for but for which no materials have been delivered nor services rendered.	
	$427,438.30

INTERFUND ACCOUNTS PAYABLE $77,250.34

This item represents accounts payable to other city departments as of June 30, 1939. See Exhibit "F."

INTRAFUND ACCOUNTS PAYABLE (CONTRA) $25,617.63

Amount due between funds of the Municipal Railway. See Exhibit "E."

ACCIDENT AND OTHER RESERVES $101,779.52

Accident Reserve

The following is an analysis of this account for the current fiscal year:

Balance June 30, 1938		$96,533.79
Addition to reserve during year, 3% of gross revenue		124,306.46
Total		$220,840.25
Less claims paid, legal and other expenses		122,054.71
Balance June 30, 1939		$98,785.54

Represented as follows:

Accident Reserve Fund Cash	$317.50
Due from Municipal Railway Operating Fund	98,468.04
	$98,785.54

Reserve for Overhead 2,993.98

This is the reserve accumulated on bills rendered to city departments and others to cover vacation, sick leave, and compensation insurance costs.

$101,779.52

SURPLUS JUNE 30, 1939		$3,919,548.91
Surplus as shown in Exhibit "A" is composed of the following items:		
Contributed Surplus	$1,525,015.07	
From Operations at beginning of present fiscal year	2,613,271.95	
	$4,138,287.02	
Less surplus adjustments during the year applicable to prior years	616,542.32	
	$3,521,744.70	
From Operations during fiscal year	392,275.09	
Contributed during fiscal year	5,529.12	
Total Surplus	$3,919,548.91	

COMPARISON CHARGES—TAXES AND OTHER ITEMS		$3,984,325.04
See Income Statement Exhibit "B."		
The Municipal Railway being a municipally owned utility is not required to pay taxes other than use or sales taxes to the City and County of San Francisco or to the State of California. For comparative purposes, taxes and other items have been recorded as follows:		
Taxes		
State of California	$3,102,272.29	
City and County of San Francisco Franchise	483,412.64	
City and County of San Francisco Car License	35,988.75	
City and County of San Francisco Local	343,470.87	
Federal Income Tax	13,270.61	
	$3,978,415.16	
Services Furnished		
Water furnished without charge by San Francisco Water Department	5,909.88	
Total	$3,984,325.04	

EXHIBIT "A"

BALANCE SHEET—JUNE 30, 1939

ASSETS

PROPERTIES

(This is what it cost to build the Municipal Railway; of the total $10,297,426.10 has been spent for completed work and $1,846.38 on work not yet completed) $10,299,272.48
The property has been reduced in value by the wearing out of equipment and tracks to the estimated amount of 6,148,629.47

$4,150,643.01

CASH

(We have cash deposited with the Treasurer of the City and County of San Francisco totaling $1,379,071.02; of this $992,555.26 is to pay wages and salaries and for purchasing materials and supplies to operate the Railway; $1,200.00 is reserved to pay back borrowed money now due but which the bond owners have not yet presented for payment: $12,982.50 is kept to pay interest on borrowed money which is due but which has not been presented to us by the bond owners for payment: $317.50 is kept to pay possible claims for accidents and for which claims have been filed: $365,515.76 is held to replace equipment, tracks, paving, and other properties of the Railway as they wear out: $6,500.00 is available to the manager of the Railway to pay small items arising from time to time in the operation of the Railway. The sums are replaced in this revolving fund by the Treasurer upon approval of the Public Utilities Commission and the Controller) 1,379,071.02

MISCELLANEOUS ACCOUNTS RECEIVABLE

(This is owed the Railway by other persons for work it has done for them and which has not yet been collected, and interest on daily bank balances) 2,473.24

INTRAFUND ACCOUNTS

(This has been expended for work on the Railway but has not yet been collected from the Railway fund responsible) 25,617.63

DEFERRED CHARGES

(This is the amount expended for materials and supplies on hand but not yet used and also for cash or credit advanced for work now in progress for the betterment of the Railway). 413,845.63

Properties and cash required to operate the Railway $5,971,650.53

LIABILITIES

BONDED DEBT

(What the Municipal Railway has borrowed in bonds not yet due but which are being repaid at the rate of $100,000.00 per year.) ($1,200.00 due but not presented for payment) ... $1,401,200.00

BOND INTEREST PAYABLE

Matured Coupons Unpaid
(This is the money due bond holders for interest who have not yet presented their bond coupons for payment) 12,982.50
Accrued—Not Due
(The monthly amount of interest on borrowed money not due until December 1, 1939, which is recorded on the books each month) 5,833.33

ACCOUNTS PAYABLE

(This is the money the Railway owed for wages, materials, etc., purchased but not yet paid for) 427,438.30

INTERFUND ACCOUNTS—SCHEDULE ANNEXED

(This is due other departments by the Railway for services performed but not yet paid for) 77,250.34

INTRAFUND ACCOUNTS (CONTRA)

(This is due from one fund of the Railway to another for work performed and is balanced by the same sum in Assets) .. 25,617.63

ACCIDENT AND OTHER RESERVES

(This is a reserve to meet obligations now existing on account of claims for injuries and damages) 101,779.52

SURPLUS JUNE 30, 1939

(This is the ownership of the people of San Francisco in the Municipal Railway. It should be understood that most of this is invested in the system and is not in cash) 3,919,548.91

Total $5,971,650.53

EXHIBIT "B"

COMPARATIVE INCOME STATEMENT FOR JUNE, 1939, AND TWELVE MONTHS OF FISCAL YEAR 1938-1939

	Month of June				Twelve Months to June 30				Cumulative from December 28, 1912, to June 30, 1939	
	1939	%	1938	%	1939	%	1938	%		%
REVENUE										
Passenger Revenue	$352,875.25	100.00	$335,105.55	100.00	$4,107,365.10	100.00	$3,444,744.88	100.00	$74,909,435.42	100.00
Advertising Revenue	1,942.80		1,843.80		23,313.66		22,125.71		393,583.89	
Miscellaneous	1,859.15		492.96		12,869.86		6,009.39		53,590.95	
Total Revenue	$356,677.20		$337,442.31		$4,143,548.62		$3,472,879.98		$75,356,610.26	
OPERATING EXPENSES										
I. Way and Structures	$17,491.55	4.95	$14,872.19	4.44	$183,515.51	4.48	$155,275.94	4.51	$3,030,053.30	4.04
II. Equipment	17,985.75	5.10	18,967.21	5.66	208,097.37	5.06	207,932.16	6.04	4,565,592.56	6.09
III. Power	46,850.62	13.28	45,762.76	13.66	560,433.34	13.64	516,072.40	14.98	10,917,505.00	14.57
IV. Conducting Transportation	166,352.52	47.14	162,147.67	48.38	1,979,376.25	48.19	1,801,375.13	52.29	38,104,184.27	50.87
VI. General and Miscellaneous*	24,989.30	7.08	20,641.14	6.16	284,460.51	6.93	249,491.06	7.24	4,128,494.74	5.52
Total Operating Expense	$273,669.74	77.55	$262,390.97	78.30	$3,215,882.98	78.30	$2,930,146.69	85.06	$60,745,829.87	81.09
PROFIT FROM OPERATIONS	$83,007.46		$75,051.34		$927,665.64		$542,733.29		$14,610,780.39	
DEDUCT PROVISION FOR										
Accidents	$10,700.32	3.03	$10,123.27	3.02	$124,306.46	3.02	$104,186.40	3.02	$1,918,962.79	2.56
Depreciation†	28,606.73	8.11	28,606.73	8.54	343,280.73	8.36	343,280.73	9.97	6,970,164.46	9.31
Total Deductions	$39,307.05	11.14	$38,730.00	11.56	$467,587.19	11.38	$447,467.13	12.99	$8,889,127.25	11.87
INCOME FROM OPERATIONS	$43,700.41		$36,321.34		$460,078.45		$95,266.16		$5,721,653.14	
NON-OPERATING INCOME										
Income from Securities Owned	.....		.....		.....		.....		$597,037.91	
Interest on Bank Balances	$764.24		$947.48		$3,102.47		$2,667.87		69,694.37	
Subsidy from Harbor Commission	.....		.....		.....		.....		70,229.71	
Other Income (P. & L.)	103.28		.....		1,177.50		6,261.28		306,595.82	
Total Non-Operating Income	$867.52		$947.48		$4,279.97		$8,929.15		$1,043,557.81	
GROSS INCOME	$44,567.93		$37,268.82		$464,358.42		$104,195.31		$6,765,210.95	
DEDUCTIONS FROM GROSS INCOME										
Interest on Funded Debt	$5,833.33	1.65	$6,250.00	1.87	$72,083.33	1.75	$77,083.33	2.24	$4,227,767.57	5.64
Miscellaneous Debits (P. & L.)	.....		87.39	.02	.....		2,653.42	.07	148,438.66	.20
Total Deductions from Gross Income	$5,833.33	1.65	$6,337.39	1.89	$72,083.33	1.75	$79,736.75	2.31	$4,376,206.23	5.84
NET INCOME	$38,734.60	10.98	$30,931.43	9.23	$392,275.09	9.55	$24,458.56	.71	$2,389,004.72	3.19

*SICK LEAVE COSTS INCLUDED

Month of June, 1939 ..... $3,119.97
12 Months to June 30, 1939 ..... 38,374.21

†1937-38 Depreciation figures have been adjusted for comparison purposes.

COMPARISON CHARGES

Month of June, 1939 ..... $11,301.03
12 Months to June 30, 1939 ..... 131,117.13
December 28, 1912, to June 30, 1939 ..... 3,984,325.04

This is what the Railway would pay in taxes if privately-owned, but not paid because it is owned by the people.

EXHIBIT "C"

RESERVE FUNDS OF THE MUNICIPAL RAILWAY—JUNE 30, 1939

ACCIDENT RESERVE FUND

Total paid in and/or credited to Fund May 1, 1926 to June 30, 1938		$1,222,692.58	
Expended for Injuries and Damages May 1, 1926 to June 30, 1938		1,126,158.79	
Unencumbered Balance June 30, 1938			$96,533.79
Due from Mun. Ry (Op.) Fund July 1, 1938 to June 30, 1939.		124,306.46	
Less Charges for Injuries and Damages paid out of Oper. Fund July 1, 1938, to June 30, 1939	$115,490.71		
Charges for Injuries and Damages paid out of Accident Reserve Fund	6,564.00	122,054.71	2,251.75
Unencumbered Balance at June 30, 1939			$98,785.54
The Unencumbered Balance consists of:			
Cash		$317.50	
Due from Operative Fund		98,468.04	
Total			98,785.54

RECONSTRUCTION AND REPLACEMENT FUND

Total paid into and/or owing to Fund May 1, 1926, to June 30, 1938		$2,573,549.23	
Expended for Replacements May 1, 1926, to June 30, 1938	$1,046,258.64		
Expended and Charged to Surplus May 1, 1926, to June 30, 1938	15,097.27	1,061,355.91	
Unencumbered Balance June 30, 1938			$1,512,193.32
Balance due from Mun. Ry. Oper. Fund July 1, 1938, to June 30, 1939			
Add Cash Transfers from Oper. Fund July 1, 1938, to June 30, 1939		$322,000.00	
Total Paid into and/or owing to Fund July 1, 1938, to June 30, 1939*		$322,000.00	
Less: Charges for Replacements Paid out of Oper. Fund July 1, 1938, to June 30, 1939	$5,617.63		
Less: Charges for Replacements Paid out of Reconstruction and Replacement Fund July 1, 1938, to June 30, 1939	135,358.49	140,976.12	
		$181,023.88	
Less: Appropriated to Operating Fund—Howard St. Trolley Bus Line	$84,000.00		
Less: Appropriated to General Fund—Traffic Survey	55,000.00	139,000.00	
Net Increase in Fund July 1, 1938, to June 30, 1939			42,023.88
			$1,554,217.20
Less: Balances due from Operating Fund applicable to Fiscal Years 1927-1928 to 1932-1933			1,186,694.86
Unencumbered Balance at June 30, 1939			$367,522.34
The Unencumbered Balance consists of:			
Cash		$365,515.76	
Due from Operative Fund		20,000.00	
Due to Bureau of Street Repair D. P. W. for Paving Replacements		*2,021.67*	
Accounts Payable—General Creditors		*371.07*	
Due to Operating Fund—Replacement Job Expenditures Applicable to Fiscal year 1938-1939		*5,617.63*	
Contract Payments—Due		*8,984.75*	
Contract Payments—Withheld		*998.30*	
			$367,522.34

*Budget Contemplated Addition to Fund.....$355,000.00
Less amount appropriated for Wages..... 33,000.00

Net cash to be transferred to fund 1938-1939... $322.000.00

Italic figures denote loss and deficiency.

EXHIBIT "D"

COMPARISON OF BUDGET WITH ACTUAL RECEIPTS AND EXPENDITURES FISCAL YEAR ENDED JUNE 30 ,1939

RECEIPTS	Budget	Actual	Increase or Decrease
Operating Revenue and Other Income	$3,892,874	$4,147,829	$254,955
EXPENDITURES			
Way and Structures	$196,049	$183,791	*$12,258*
Equipment	218,984	208,122	*10,862*
Power	567,500	560,435	*7,065*
Conducting Transportation	1,997,115	1,976,740	*20,375*
General and Miscellaneous*	254,326	262,441	8,115
Total Direct Operating	$3,233,974	$3,191,529	*$42,445*
Injuries and Damages	94,780	122,055	27,275
Employees' Compensation	20,000	20,392	392
Reconstruction and Replacement Fund	322,000	322,000	.....
Total Operating Expenses and Reserves	$3,670,754	$3,655,976	*$14,778*
Additions and Betterments	14,890	1,817	*13,073*
Equipment	132,390	131,420	*970*
Bond Interest	72,500	72,500	.....
Bond Redemption	100,000	100,000	.....
Total Budgeted Expenditures and Accruals Fiscal Year 1938-39	$3,990,534	$3,961,713	*$28,821*
Budgeted in Previous Fiscal Year:			
Plan X Terminal	155,000	154,046	*954*
Appraisal of Properties	9,593	4,263	*5,330*
Total Expenditures and Accruals	$4,155,127	$4,120,022	*$35,105*
NET SAVINGS ON BUDGET ESTIMATE	$262,253	$27,807	$290,060

*Sick Leave Costs Included:

Month of June, 1939	$3,119.97
12 Months Ended June 30, 1939	38,374.21

Italic figures denote loss and deficiency.

EXHIBIT "E"

INTRAFUND ACCOUNTS

JUNE 30, 1939

Due Reconstruction and Replacement Fund from Operating Fund for loan to purchase rails, etc., for Geary Street	$20,000.00
Due Operating Fund from Reconstruction and Replacement Fund for Labor and Material used on replacement jobs during Fiscal Year 1938-1939	5,617.63
Total per Balance Sheet	$25,617.63

EXHIBIT "F"

INTERFUND ACCOUNTS PAYABLE

JUNE 30, 1939

General City and County

GENERAL FUND			
POWER BILLS			
Power Bills for March and June, 1939	$42,575.66		
DEPARTMENT OF PUBLIC WORKS			
Miscellaneous Charges W. O. 831	63.72		
Total General Fund		$42,639.38	
PUBLIC UTILITIES COMMISSION			
General Office—Temporary Claims Investigator—October 1, 1938 to June 30, 1939	$1,673.74		
Bureau of Engineering—Payroll, Personal and Miscellaneous Expenses—January, 1939 to June 30, 1939	5,277.29		
Bid Advertising for June, 1939	11.39	6,962.42	
EMPLOYEES' RETIREMENT SYSTEM			
Pension Matching Costs—May and June, 1939	$15,925.51		
Compensation and Medical—June, 1939	1,489.73		
Retirements and Death Claims—June, 1939	2,916.67		
Hospital Service to Employees—January to June 30, 1939	702.57	21,034.48	
COUNTY ROADS FUND			
DEPARTMENT OF PUBLIC WORKS			
Bureau of Street Repair—Paving Maintenance—January, 1939	$807.03		
Bureau of Street Repair—Paving Replacement—January, March and June, 1939	1,866.64		
Bureau of Street Repair—Paving Requirements—February, April and May, 1939	2,022.97		
Bureau of Street Repair—Paving Maintenance Replacement—January to June 30, 1939	1,845.29		
Total County Roads Funds		6,541.93	
Total General City and County			$77,178.21

Public Service Enterprises

SAN FRANCISCO WATER DEPARTMENT			
Blue Printing and Photostating—January 1 to June 30, 1939	$28.95		
Additional Auto Insurance to Cover 1939 Mack Dump Truck	43.18		
Total San Francisco Water Department		$72.13	
Total Public Service Enterprises			72.13
TOTAL AS PER BALANCE SHEET			$77,250.34

SCHEDULE "I"

SCHEDULE OF ROAD AND EQUIPMENT AS OF JUNE 30, 1939

Acct. No.	WAYS AND STRUCTURES	Balance June 30, 1938 Per Appraisal	Additions Fiscal Year 1938-1939: Reconstruction and Replacement Fund	Additions Fiscal Year 1938-1939: Municipal Railway Fund	Additions Fiscal Year 1938-1939: Total	Retirements During Fiscal Year 1938-1939	Net Additions Fiscal Year 1938-1939	Balance June 30, 1939
502	Right of Way	$169,839.07	.....	.....	.....	.....	.....	$169,839.07
503	Other Land Used in Electric Railway Operations	265,490.48	.....	.....	.....	.....	.....	265,490.48
504	Grading	502,076.70	.....	$18,688.52	$18,688.52	.....	$18,688.52	520,765.22
505	Ballast	360,606.02	$1,289.88	1,991.37	3,281.25	$370.12	2,911.13	363,517.15
506	Ties	193,077.00	671.48	2,805.12	3,476.60	692.55	2,784.05	195,861.05
507	Rails, Rail Fastenings, and Joints	943,175.51	5,501.82	17,315.06	22,816.88	4,944.16	17,872.72	961,048.23
508	Special Work	331,315.25	16,771.89	33,058.51	49,830.40	13,817.48	36,012.92	367,328.17
510	Track and Roadway Labor	808,385.12	14,503.87	41,613.02	56,116.89	7,882.08	48,234.81	856,619.93
511	Paving	1,216,224.00	3,549.73	12,598.84	16,148.57	3,104.51	13,044.06	1,229,268.06
512	Roadway Machinery and Tools	21,895.87	.....	1,307.42	1,307.42	91.75	1,215.67	23,111.54
513	Tunnels and Subways	14,987.49	.....	.....	.....	.....	.....	14,987.49
515	Bridges, Trestles, and Culverts	4,689.04	.....	.....	.....	.....	.....	4,689.04
516	Crossings, Fences, and Signs	46,075.71	.....	.....	.....	.....	.....	46,075.71
517	Signals and Interlocking Apparatus	2,686.27	.....	17,473.92	17,473.92	.....	17,473.92	20,160.19
518	Telephone and Telegraph Lines	179.07	.....	.....	.....	.....	.....	179.07
519	Poles and Fixtures	276,731.54	.....	1,233.24	1,233.24	1,629.61	*396.37*	276,335.17
520	Underground Conduits	157,032.80	.....	.....	.....	.....	.....	157,032.80
521	Distribution System	807,485.83	7,062.12	12,771.07	19,833.19	6,012.27	13,820.92	821,306.75
523	Shops and Carhouse	977,447.65	.....	.....	.....	127.83	*127.83*	977,319.82
524	Stations, Miscellaneous Buildings and Structures	39,566.28	2,382.00	.....	2,382.00	1,550.00	832.00	40,398.28
	Total Ways and Structures	$7,138,966.70	$51,732.79	$160,856.09	$212,588.88	$40,222.36	$172,366.52	$7,311,333.22
	EQUIPMENT							
530-A	Passenger and Combination Cars, Electric	$1,694,851.31	$3,584.40	$1,792.20	$5,376.60	$1,785.27	$3,591.33	$1,698,442.64
530-B	Passenger and Combination Cars, Buses	189,686.70	61,969.08	124,318.17	186,287.25	58,069.53	128,217.72	317,904.42
532-A	Service Equipment, Electric	13,871.11	.....	.....	.....	.....	.....	13,871.11
532-B	Service Equipment, Automotive	31,068.61	3,873.98	1,993.73	5,867.71	2,517.76	3,349.95	34,418.56
533	Electric Equipment of Cars	841,975.83	.....	.....	.....	.....	.....	841,975.83
536	Shop Equipment	43,221.97	168.39	420.50	588.89	80.80	508.09	43,730.06
537	Furniture	33,750.06	649.52	1,916.80	2,566.32	566.12	2,000.20	35,750.26
	Total Equipment	$2,848,425.59	$70,245.37	$130,441.40	$200,686.77	$63,019.48	$137,667.29	$2,986,092.88
	Total Road and Equipment	$9,987,392.29	$121,978.16	$291,297.49	$413,275.65	$103,241.84	$310,033.81	$10,297,426.10

Italic figures denote loss and deficiency.

SCHEDULE "II"

ANALYSIS OF RESERVE FOR DEPRECIATION AND RATES APPLICABLE TO FISCAL YEAR 1938-1939

Acct. No.	Account	Cost at June 30, 1938	Rate of Depreciation for 1938-1939	Amount of Depreciation for 1938-1939
502	Right of Way	$169,839.07	...	.....
503	Other Land Used in Electric Railway Operations	265,490.48	...	.....
504	Grading	502,076.70	1.92	9,655.32
505	Ballast	360,606.02	2.50	9,015.15
506	Ties	193,077.00	3.85	7,426.04
507	Rails, Rail Fastenings and Joints	943,175.51	3.58	33,736.66
508	Special Work	331,315.25	5.44	18,038.28
510	Track and Roadway Labor	808,385.12	4.17	33,682.71
511	Paving	1,216,224.00	4.00	48,648.96
512	Roadways, Machinery and Tools	21,895.87	4.36	954.88
513	Tunnels and Subways	14,987.49	3.53	528.97
515	Bridges, Trestles, and Culverts	4,689.04	2.50	117.23
516	Crossings, Fences and Signs	46,075.71	2.04	937.89
517	Signals and Interlocking Apparatus	2,686.27	7.95	213.66
518	Telephone and Telegraph Lines	179.07	6.67	11.94
519	Poles and Fixtures	276,731.54	2.37	6,572.37
520	Underground Conduits	157,032.80	1.78	2,798.04
521	Distribution System	807,485.83	3.40	27,454.52
523	Shops and Carhouses	977,447.65	2.07	20,244.47
524	Stations, Miscellaneous Buildings, and Structures	39,566.28	3.90	1,542.21
530-A	Passenger and Combination Cars, Electric	1,694,851.31	3.84	65,135.50
530-B	Passenger and Combination Cars, Buses	189,686.70	9.42	17,862.35
532-A	Service Equipment, Electric	13,871.11	3.17	439.22
532-B	Service Equipment, Automotive	31,068.61	4.97	1,543.76
533	Electric Equipment of Cars	841,975.83	3.94	33,143.90
536	Shop Equipment	43,221.97	4.00	1,729.59
537	Furniture	33,750.06	5.47	1,847.11
	Totals	$9,987,392.29	3.44	$343,280.73

	Total Provision for Depreciation	Less: Charges For Assets Retired	Balance
Fiscal Years ended 1913 to 1938	$6,922,133.15	.....	.....
Deduct: Amount not funded—1933 to 1938	*1,000,976.99*	.....	.....
Per Report—June 30, 1938	$5,921,156.16	$606,854.56	$5,314,301.60
Add: Adjustment per Appraisal of Properties as of June 30, 1938	590,255.23	.....	590,255.23
Adjusted Balances as of June 30, 1938	$6,511,411.39	$606,854.56	$5,904,556.83
Year Ended—June 30, 1939	343,280.73	99,208.09	244,072.64
	$6,854,692.12	$706,062.65	*$6,148,629.47

*Total Reserve for Depreciation per Exhibit "A"—$6,148,629.47.

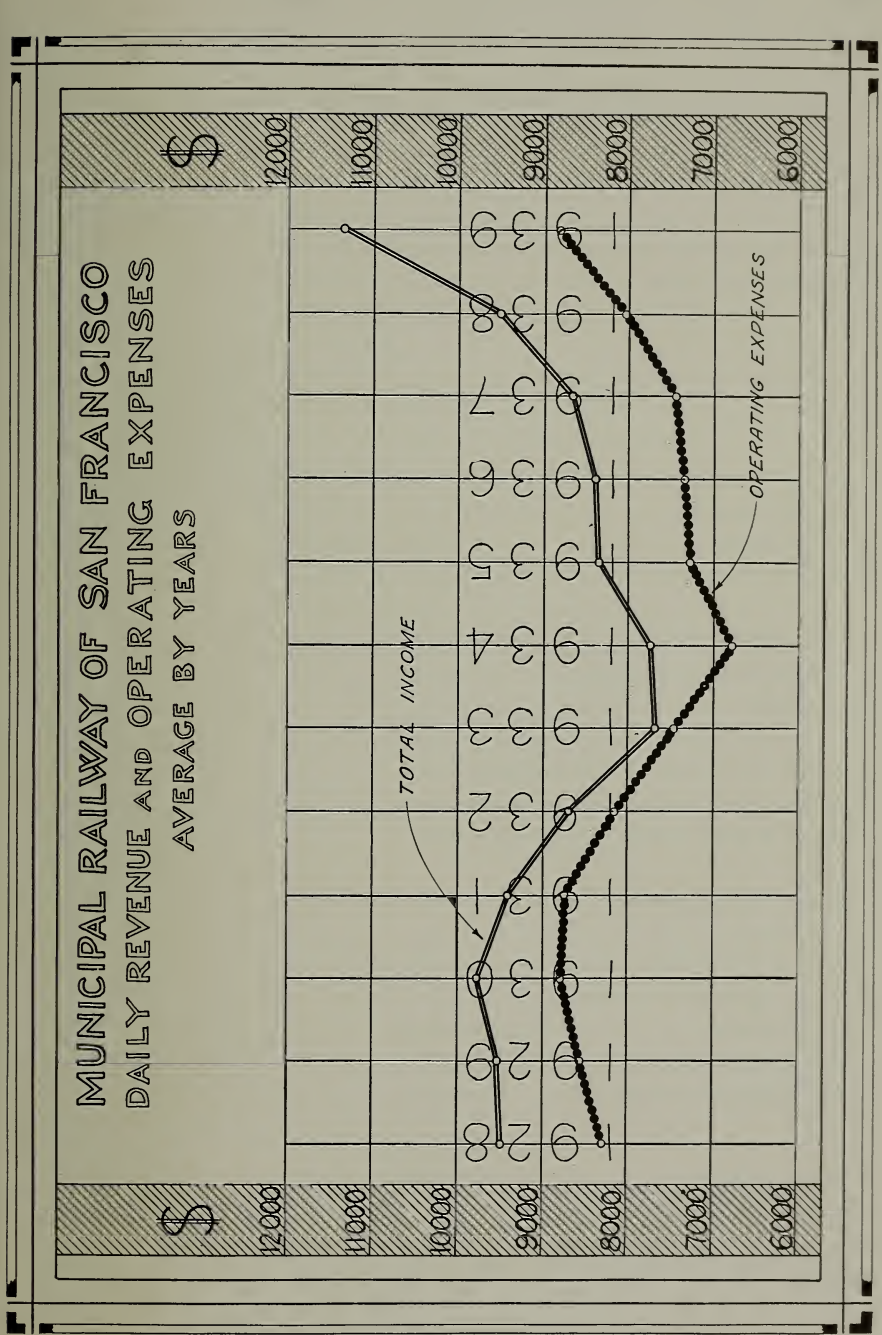
Italic figures denote loss and deficiency.

FIELD OPERATING STATEMENT

FISCAL YEAR ENDED JUNE 30, 1939

Line	Total Revenue	Operating Expense	Depreciation	Accident Reserve	Bond Interest	Non-Operating *Income* Expense	Total Net Deductions	Net Income	Bond Redemption	Surplus or *Deficit*
B	$592,170.43	$401,409.79	$42,929.21	$14,386.75	$8,212.48	*$565.38*	$466,372.85	$125,797.58	$13,210.00	$112,587.58
C	453,062.71	332,735.59	35,584.77	11,925.43	6,807.47	*468.66*	386,584.60	66,478.11	10,950.00	55,528.11
D	273,092.86	204,199.38	21,838.33	7,318.62	4,177.73	*287.61*	237,246.45	35,846.41	6,720.00	29,126.41
E	149,063.60	166,519.73	17,808.63	5,968.16	3,406.84	*234.54*	193,468.82	*44,405.22*	5,480.00	*49,885.22*
F	383,889.11	226,381.75	24,210.64	8,113.65	4,631.56	*318.86*	263,018.74	120,870.37	7,450.00	113,420.37
H	341,106.12	301,437.18	32,237.53	10,803.68	6,167.13	*424.57*	350,220.95	*9,114.83*	9,920.00	*19,034.83*
J	396,412.65	265,884.61	28,435.32	9,529.45	5,439.76	*374.50*	308,914.64	87,498.01	8,750.00	78,748.01
K	416,558.29	358,564.38	38,347.06	12,851.15	7,335.90	*505.04*	416,593.45	*35.16*	11,800.00	*11,835.16*
L	435,356.51	379,531.28	40,589.39	13,602.61	7,764.86	*534.57*	440,953.57	*5,597.06*	12,490.00	*18,087.06*
M	11,789.89	32,210.02	3,444.74	1,154.43	658.99	*45.37*	37,422.81	*25,632.92*	1,060.00	*26,692.92*
N	543,593.52	369,807.51	39,549.46	13,254.11	7,565.93	*520.87*	429,656.14	113,937.38	12,170.00	101,767.38
Total Cars	$3,996,095.69	$3,038,681.22	$324,975.08	$108,908.04	$62,168.65	*$4,279.97*	$3,530,453.02	$465,642.67	$100,000.00	$365,642.67
Bus No. 1	$71,524.15	$104,642.54	$13,703.61	$9,089.08	$7,422.13	.....	$134,857.36	*$63,333.21*	.....	*$63,333.21*
Bus No. 4	45,607.95	37,417.44	.....	3,256.98	.....	.....	40,674.42	4,933.53	.....	4,933.53
Bus No. 5	10,066.54	12,860.16	1,684.12	1,117.01	912.15	.....	16,573.44	*6,506.90*	.....	*6,506.90*
Bus No. 6	20,254.29	22,281.62	2,917.92	1,935.35	1,580.40	.....	28,715.29	*8,461.00*	.....	*8,461.00*
Total Buses	$147,452.93	$177,201.76	$18,305.65	$15,398.42	$9,914.68	.....	$220,820.51	*$73,367.58*	.....	*$73,367.58*
Total	$4,143,548.62	$3,215,882.98	$343,280.73	$124,306.46	$72,083.33	*$4,279.97*	$3,751,273.53	$392,275.09	$100,000.00	$292,275.09

Italic figures denote loss and deficiency.


MUNICIPAL RAILWAY OF SAN FRANCISCO
DAILY REVENUE AND OPERATING EXPENSES
AVERAGE BY YEARS
$
12000
11000
10000
9000
8000
7000
6000
TOTAL INCOME
OPERATING EXPENSES

SUMMARY OF INCOME AND OUTLAY

December 28, 1912, to June 30, 1939

INCOME			
Passenger and Other Revenue	$75,356,610.26		
Subsidy from Harbor Commission	70,229.71		
Contributed	1,530,544.19		
Interest on Bonds and Daily Balances	666,732.28		
Miscellaneous Credits—Profit and Loss	306,595.82		
Cash Received from Sale of Original Bonds Issued	5,481,000.00		
Total Income and Credits		$83,411,712.26	
OUTLAY			
Operating Expenses	$60,745,829.87		
Bond Interest Charges	4,227,767.57		
Injuries and Damages	1,820,177.25		
Miscellaneous Debits—Profit and Loss	148,438.66		
Total Expenses		$66,942,213.35	
Excess of Income over Expenses		16,469,498.91	
Bonds Redeemed		4,081,000.00	
Balance after Expenses and Bond Redemption		$12,388,498.91	
Expended for Construction Extensions, Betterments, Replacements and Renewals and Road and Equipment Retired		11,153,870.04	
Balance, Net Cash, Receivables, Stores, etc., on Hand See Below:			$1,234,628.87

SOURCES OF FUNDS		
From Bond Sales	$5,481,000.00	
From Reconstruction & Replacement Fund	1,187,234.76	
From Earning & Contributions	4,710,071.92	
	$11,378,306.68	
Deduct Retirements	1,045,971.63	
	$10,332,335.05	
Add portion of Retirements Charged to Reserve	821,534.99	
	$11,153,870.04	

CASH			
Cash, Revolving Fund, Net	$6,500.00		
*Cash, Operating Fund, Net	871,930.53		
Cash, Accident Reserve Fund, Net	317.50		
†Cash, Reconstruction and Replacement Fund, Net	365,515.76		
Cash, Bond Redemption Fund, Net	.....		
Cash, Bond Interest Fund, Net	.....		
Total Net Cash		$1,244,263.79	
ACCOUNTS RECEIVABLE			
Due from City and County of San Francisco—Interest	$764.24		
Due from Harbor Commission	.....		
Miscellaneous Accounts Receivable	1,709.00		
Total Accounts Receivable		2,473.24	
STORES			
At Car Barn	$79,959.58		
At Storage Yard	102,165.67		
Contributed Stores	806.74		
Total Stores		182,931.99	
DEFERRED ASSETS			
Cash Advanced to General Fund—Traffic Survey	$55,000.00		
Miscellaneous Deferred Items	3,302.65		
Total Deferred Assets		$58,302.65	
TOTAL CASH, RECEIVABLES, STORES, ETC.		$1,487,971.67	
LIABILITIES			
Accounts Payable, Contract Payments, Interfund, etc.	$244,515.49		
Accrued Interest Not Due	5,833.33		
Unadjusted Credits	2,993.98		
Total Liabilities		253,342.80	
NET FREE ASSETS			$1,234,628.87

*Due to Reconstruction and Replacement Fund from Operating Fund for cash transferred for Purchase of Stores $20,000.00

*Due to Accident Reserve Fund from Operating Fund—net difference amount reserved and accident costs to date, and less cash in fund—$317.50 ..... $98,468.04

†Due to Operating Fund from Reconstruction and Replacement Fund for labor and material on Reconstruction and Replacement Fund Replacement Jobs $5,617.63

STATEMENT OF BUS LINE OPERATIONS

From July 1, 1938, to June 30, 1939

PASSENGER REVENUE				
Route No. 1—(10th Ave. to California St. to Edna and Monterey Blvd.)	$65,534.40			
Route No. 4—Embarcadero Route	45,404.65			
Route No. 5—Marina Route	9,735.70			
Route No. 6—Eureka-Diamond Route	19,193.00			
Special Buses	.....			
Over and Short Adjustment July 1, 1938 to June 30, 1939	47.80			
Total Cash Passenger Revenue		$139,915.55		
REVENUE CREDITS				
1,912 Special Tickets at 2½c	$47.80			
7,821 Special Tickets at 5c	391.05			
96 Q. M. C. Tickets at 5c	4.80			
283,749 School Tickets at 2½c	7,093.73			
Total Revenue Credits		7,537.38		
Total Passenger Revenue and Credits			$147,452.93	
OPERATING EXPENSES				
GROUP II—EQUIPMENT				
Acct. No.				
39A Bus Engines	$8,963.38			
39B Painting Buses	304.30			
39C Chassis, Labor and Material, Buses	3,427.82			
39D Bus Tires, including Repairs	7,221.38			
39E Bus Body Repairs	2,141.18			
39F Repairs to Garage Equipment	45.02			
39G Transmission, Labor and Material, Buses	1,902.68			
39H Brake Work, Labor and Material, Buses	1,440.15			
Total—Group II		$25,445.91		
GROUP IV—CONDUCTING TRANSPORTATION				
78A Gasoline, Buses	$32,651.82			
78B Oils and Lubricants, Buses	1,476.84			
78C Conductors-Chauffeurs, Buses	70,218.83			
78D Greasing, Servicing and Miscellaneous Expense	12,913.39			
78E Cleaning and Washing Buses	4,206.67			
Total—Group IV		121,467.55		
GROUP VI—GENERAL AND MISCELLANEOUS				
88A Pension Costs, Buses	$6,258.88			
88C Sick Leave, Bus Employees	344.40			
88D Sick Leave, Medical Fees	121.80			
*89A Administration, Buses	13,200.00			
89B Insurance (769,921 miles at 2c)	15,398.42			
94 Stationery and Printing	780.00			
95 Store Expense	4,836.50			
98 Rent of Equipment, 2,190 hours at 60c	1,314.00			
98A Garage, Shop, Office and Equipment Rental	3,432.72			
Total—Group VI		45,686.72		
Total Operating Expense			192,600.18	
OPERATING LOSS				*$45,147.25*
FIXED CHARGES				
Accrued Depreciation, Buses	$17,862.35			
Accrued Depreciation, Garage Equipment	396.98			
Accrued Depreciation, Fare Boxes	46.32			
Interest on Investment at 5%	9,914.68			
Total Fixed Charges				28,220.33
NET LOSS FISCAL YEAR				*$73,367.*
Average Net Loss Per Day (365 Days' Operation)				*201.*
*Allocation:				
Superintendence—Plant and Equipment	$4,012.80			
Superintendence—Operation of Buses	4,012.80			
Superintendence—General	5,174.40			
	$13,200.00			

Italic figures denote loss and deficiency.

Acct. No.		Bus Mileage 769,921 Miles Itemized Cost Per Mile	Bus Hours 80,127 Hours Itemized Cost Per Hour
39A	Bus Engines, Labor and Material	.01164	.11187
39B	Painting Buses	.00040	.00380
39C	Chassis, Labor and Material, Buses	.00445	.04278
39D	Bus Tires, including Repairs	.00938	.09012
39E	Bus Body Repairs	.00278	.02672
39F	Repairs to Garage Equipment	.00006	.00056
39G	Transmission, Labor and Material, Buses	.00247	.02375
39H	Brake Work, Labor and Material, Buses	.00187	.01797
	Total—Group II Equipment	.03305	.31757
78A	Gasoline, Buses	.04241	.40750
78B	Oils and Lubricants, Buses	.00192	.01843
78C	Conductors-Chauffeurs, Buses	.09120	.87635
78D	Greasing, Servicing & Miscellaneous Expenses, Buses	.01677	.16116
78E	Cleaning and Washing Buses	.00547	.05250
	Total—Group IV Conducting Transportation	.15777	1.51594
88A	Pension Costs, Buses	.00813	.07811
88C	Sick Leave, Bus Employees	.00045	.00430
88D	Sick Leave, Medical Fees	.00016	.00152
89A	Administration, Buses	.01714	.16474
89B	Insurance, Buses	.02000	.19218
94	Stationery and Printing	.00101	.00973
95	Store Expense	.00628	.06036
98	Rent of Equipment	.00171	.01640
98A	Garage, Shop, Office and Equipment Rental	.00446	.04284
	Total—Group VI General and Miscellaneous	.05934	.57018
	Total Operating Expense	.25016	2.40369
	Accrued Depreciation	.02377	.22846
	Interest on Investment	.01288	.12373
	Total Fixed Charges	.03665	.35219
	Total Expense	.28681	2.75588
	Passenger Revenue per Bus Mile	.18173	1.74617
	Revenue Credits per Bus Mile	.00979	.09407
	Total Revenue	.19152	1.84024
	Net Loss	*.09529*	*.91564*

PASSENGERS CARRIED

5c Fares	$2,798,311
5c Government Tickets	96
2½c School Tickets	283,749
Local Transfers	1,888,978
Free Passengers	5,246
Special Tickets, Free	1,298
Special Tickets, 2½c	1,912
Special Tickets, 5c	7,821
	$4,987,411

NOTE: Charge to Insurance Reserve July 1, 1938, to June 30, 1939:

Proportion Salary Expenses Claims Department	$2,047.92
Accident Claims Paid	1,971.59
Total	$4,019.51

NOTE: No subsidy receivable from the State Board of Harbor Commissioners for the fiscal year July 1, 1938, to June 30, 1939, as no loss is shown by operation of Embarcadero Bus Route for said fiscal year.

Italic figures denote loss and deficiency.

COMPARATIVE OPERATING RECEIPTS STATEMENT BETWEEN FISCAL YEARS ENDED JUNE 30, 1939, AND JUNE 30, 1938

Line	FISCAL YEAR ENDED JUNE 30, 1939 Receipts	Car Hours	Receipts Per Car Hour	Line	FISCAL YEAR ENDED JUNE 30, 1938 Receipts	Car Hours	Receipts Per Car Hour	Line	INCREASE—COMPARISON Receipts	Car Hours	Receipts Per Car Hour
B	$561,738.85	121,913	$4.61	B	$472,675.35	112,382	$4.21	B	$89,063.50	9,531	$0.40
C	432,967.15	101,064	4.28	C	353,164.00	91,278	3.87	C	79,803.15	9,786	.41
D	265,593.30	62,040	4.28	D	239,252.80	59,211	4.04	D	26,340.50	2,829	.24
E	143,173.40	50,612	2.83	E	138,512.90	51,201	2.71	E	4,660.50	*589*	.12
F	362,510.75	68,762	5.27	F	343,873.40	65,983	5.21	F	18,637.35	2,779	.06
H	320,369.85	91,525	3.50	H	283,424.35	86,520	3.28	H	36,945.50	5,005	.22
J	379,358.30	80,802	4.69	J	290,460.75	68,537	4.24	J	88,897.55	12,265	.45
K	396,271.00	108,945	3.64	K	321,705.10	95,247	3.38	K	74,565.90	13,698	.26
L	414,727.00	115,294	3.60	L	331,545.20	98,749	3.36	L	83,181.80	16,545	.24
M	10,787.60	9,768	1.10	M	9,374.75	9,767	.96	M	1,412.85	1	.14
N	514,424.60	112,274	4.58	N	406,314.25	98,485	4.13	N	108,110.35	13,789	.45
Total	3,801,921.80	922,999	4.12	Total	3,190,302.85	837,360	3.81	Total	611,618.95	85,639	.31

Above Receipts Are For 5c Fares Only

Total Receipts (Bus Lines not Included).....$4,007,960.84
Total Receipts (Bus Lines not Included) per car hr. $4.34

Bus Lines

Bus Hours—80,127

Receipts $139,867.75
Receipts per Bus Hour... $1.75
Total Receipts All Sources $4,147,828.59
Total Bus and Car Hours. 1,003,126
Total Receipts per Bus & Car Hr..$4.13

Above Receipts Are For 5c Fares Only

Total Receipts (Bus Lines not Included).....$3,350,039.83
Total Receipts (Bus Lines not Included) per car hr. $4.00

Bus Lines

Bus Hours—82,318

Receipts $131,769.30
Receipts per Bus Hour... $1.60
Total Receipts All Sources $3,481,809.13
Total Bus and Car Hours. 919,678
Total Receipts per Bus & Car Hr..$3.79

Above Receipts Are For 5c Fares Only

Total Receipts (Bus Lines not Included)..... $657,921.01
Total Receipts (Bus Lines not Included) per car hr. $0.34

Bus Lines

Bus Hours—*2,191*

Receipts $8,098.45
Receipts per Bus Hour... $0.15
Total Receipts All Sources $666,019.46
Total Bus and Car Hours. 83,448
Total Receipts per Bus & Car Hr..$0.34

Italic figures denote loss and deficiency.

RECAPITULATION OF PASSENGER TRAFFIC
FISCAL YEAR JULY 1, 1938 TO JUNE 30, 1939

Line	5c Fares	Q.M.T.	School	Special Tickets 2½c	Special Tickets 5c	Non-Revenue Transfers Div.	Fillmore	Hyde	Ellis	Ingl.	Total	Local Transfers	Free Passengers	Special Tickets Free	Total Passengers
B	10,932,587	804	904,128	6,350	25,910	4,018	152,009	.....	.....	.....	156,027	2,181,822	49,749	4,286	14,261,663
C	8,374,857	796	541,545	5,521	22,576	3,798	116,831	.....	.....	.....	120,629	1,466.547	33,933	3,749	10,570,153
D	5,136,906	567	133,219	4,093	16,326	.....	.....	.....	.....	.....	.....	781,987	11,925	3,148	6,088,171
E	2,860,588	77	111,489	2,061	8,401	.....	160,126	104,753	.....	.....	264,879	846,142	12,006	1,392	4,107,035
F "Ferries"	60,412	1	2,384	16	69	.....	.....	.....	.....	.....	.....	7,229	143	13	70,267
F	6,893,900	44	672,806	4,021	16,397	.....	.....	.....	39,649	.....	39,649	2,650,322	15,319	2,716	10,295,174
H	6,343,143	125	573,118	7,181	29,322	.....	.....	.....	.....	.....	.....	4,110,461	80,025	4,850	11,148,225
J	7,275,751	205	461,417	5,729	23,400	.....	.....	.....	.....	.....	.....	1,317,750	51,817	3,874	9,139,943
K	7,621,887	276	535,998	5,313	21,657	.....	.....	.....	.....	21,597	21,597	1,734,054	48,848	3,580	9,993,210
L	7,962,544	333	539,690	4,946	20,165	.....	.....	.....	.....	.....	.....	1,665,155	71,678	3,335	10,267,846
M	214,550	....	17,041	297	1,212	.....	.....	.....	.....	2,991	2,991	214,956	3,967	202	455,216
N	9,892,088	224	870,255	6,847	27,898	.....	.....	.....	.....	.....	.....	1,687,733	64,786	4,607	12,554,438
Misc.	2,481,280	409	179,999	1,409	5,734	.....	.....	.....	7,504	.....	7,504	1,119,214	4,597	951	3,801,097
Bus Route No. 1	1,311,342	28	231,852	702	2,865	.....	.....	.....	.....	.....	.....	1,244,740	2,177	475	2,794,181
Bus Route No. 4	908,214	47	911	747	3,069	.....	.....	.....	.....	.....	.....	.....	2,875	509	916,372
Bus Route No. 5	194,793	15	12,762	32	128	.....	.....	.....	.....	.....	.....	229,517	25	23	437,295
Bus Route No. 6	383,962	6	38,224	431	1,759	.....	.....	.....	.....	.....	.....	414,721	169	291	839,563
Total	78,848,804	3,957	5,826,838	55,696	226,888	7,816	428,966	104,753	47,153	24,588	613,276	21,672,350	454,039	38,001	107,739,849

COMPARISON OF CAR HOURS AND CAR MILES

FISCAL YEARS 1938-1939 AND 1937-1938

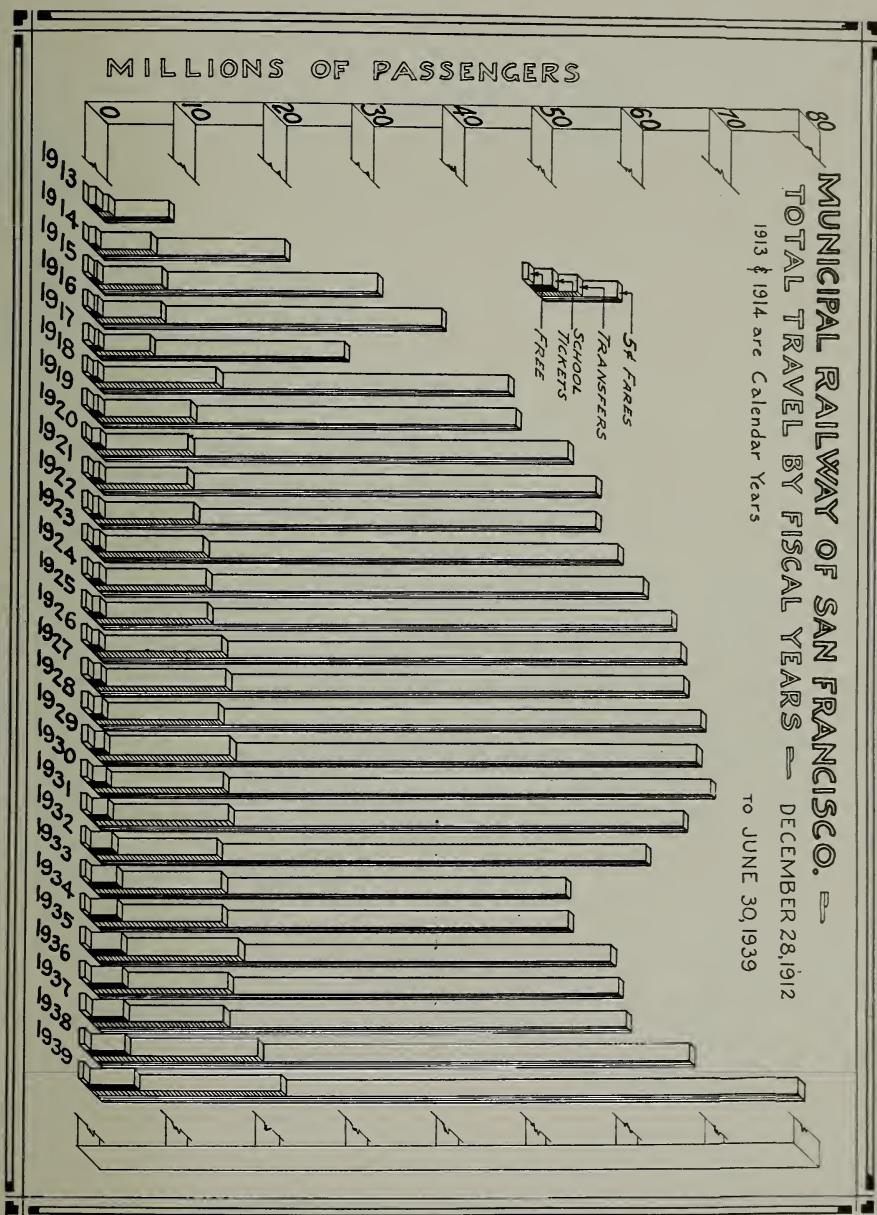
Cars	Line Car Hours 1938-1939	Line Car Hours 1937-1938	Line Car Hours Increase or Decrease	Car Miles 1938-1939	Car Miles 1937-1938	Car Miles Increase or Decrease
B	121,913	112,382	9,531	1,282,862	1,215,360	67,502
C	101,064	91,278	9,786	1,018,881	951,451	67,430
D	62,040	59,211	2,829	527,057	512,272	14,785
E	50,612	51,201	*589*	397,078	400,300	*3,222*
F	68,762	65,983	2,779	572,749	553,824	18,925
H	91,525	86,520	5,005	828,691	798,962	29,729
J	80,802	68,537	12,265	712,443	637,398	75,045
K	108,945	95,247	13,698	1,179,917	1,072,160	107,757
L	115,294	98,749	16,545	1,253,783	1,131,300	122,483
M	9,768	9,767	1	112,259	112,267	*8*
N	112,274	98,485	13,789	1,154,427	1,049,436	104,991
Total Cars	922,999	837,360	85,639	9,040,147	8,434,730	605,417
Bus No. 1	43,592	45,878	*2,286*	454,467	480,220	*25,753*
Bus No. 4	17,008	17,002	6	162,849	162,675	174
Bus No. 5	7,123	7,119	4	55,850	51,662	4,188
Bus No. 6	12,404	12,319	85	96,755	83,400	13,355
Total Buses	80,127	82,318	*2,191*	769,921	777,957	*8,036*
Total Cars & Buses	1,003,126	919,678	83,448	9,810,068	9,212,687	597,381

Italic figures denote loss and deficiency.

COMPARATIVE STATEMENT DATA FOR FISCAL YEARS ENDED JUNE 30, 1939 AND JUNE 30, 1938

	Fiscal Year Ended June 30, 1939 Total	Ratio to Passenger Revenue	Per Car Mile	Per Car Hour	Fiscal Year Ended June 30, 1938 Total	Ratio to Passenger Revenue	Per Car Mile	Per Car Hour
Passenger Revenue	4,107,365	100.000	.4187	4.0946	3,444,745	100.000	.3739	3.7456
Operating Expense	3,215,883	78.296	.3278	3.2059	2,930,147	85.061	.3181	3.1861
Interest on Funded Debt	72,083	1.755	.0073	.0719	77,083	2.238	.0084	.0838
Provision for Depreciation	343,281	8.358	.0350	.3422	100,000	2.903	.0109	.1087
Provision for Accidents	124,306	3.026	.0127	.1239	104,186	3.024	.0113	.1133
Net Income	392,275	9.551	.0400	.3911	267,739	7.772	.0290	.2911
Passenger Car and Bus Mileage	9,810,068	.....	.....	.....	9,212,687	.....	.....	.....
Passenger Car and Bus Hours	1,003,126	.....	.....	.....	919,679	.....	.....	.....
Platform Expense	1,635,719	39.824	.1667	1.6306	1,474,529	42.805	.1601	1.6033
Number of Passenger Cars Owned	234	.....	.....	.....	234	.....	.....	.....
Number of Work Cars Owned	6	.....	.....	.....	6	.....	.....	.....
Total Number of Cars Owned	240	.....	.....	.....	240	.....	.....	.....
Total Number of Buses Owned	31	.....	.....	.....	19	.....	.....	.....
Total No. of Cars and Buses Owned	271	.....	.....	.....	259	.....	.....	.....
Revenue Passengers Carried	84,962,183	.....	8.6607	84.6974	70,981,644	.....	7.7048	77.1809
Free Transfer Passengers Carried	22,285,626	.....	2.2717	22.2162	18,786,761	.....	2.0392	20.4275
Free Passengers (Employes, Police, etc.)	492,040	.....	.0502	.4905	522,114	.....	.0567	.5677
Total Passengers Carried	107,739,849	.....	10.9826	107.4041	90,290,519	.....	9.8007	98.1761

Note: Above includes Bus Operation.


MUNICIPAL RAILWAY OF SAN FRANCISCO.
TOTAL TRAVEL BY FISCAL YEARS — DECEMBER 28, 1912 TO JUNE 30, 1939
1913 & 1914 are Calendar Years
MILLIONS OF PASSENGERS
0
10
20
30
40
50
60
70
80
5¢ FARES
TRANSFERS
SCHOOL TICKETS
FREE
1913
1914
1915
1916
1917
1918
1919
1920
1921
1922
1923
1924
1925
1926
1927
1928
1929
1930
1931
1932
1933
1934
1935
1936
1937
1938
1939

COST STATEMENT—ITEMIZED ACCOUNTS

Fiscal Year July 1, 1938 to June 30, 1939

STREET CAR OPERATION ONLY

I. WAY AND STRUCTURES

Acct. No.	Name	Amount	Per Car Mile	Per Car Hour
1	Superintendent Way and Structures	$12,792.88	.00142	.01386
2	Ballast	74.29	.00001	.00008
3	Ties	119.68	.00001	.00013
4	Rails	2,707.95	.00030	.00293
5	Rail Fastenings and Joints	6,566.59	.00073	.00711
6	Special Work	*53.05*	.....	*.00006*
8	Roadway and Track Labor	79,236.81	.00877	.08585
9	Miscellaneous Road and Track Expense	4,091.30	.00045	.00443
10	Paving	16,045.00	.00178	.01739
11	Cleaning and Sanding Track	26,159.70	.00289	.02834
13	Tunnels	941.55	.00010	.00102
16	Crossings, Fences, Guards and Signs	453.50	.00005	.00049
17	Signal and Interlocking System	565.88	.00006	.00061
18	Telephone and Telegraph System	17.55	.....	.00002
20	Poles and Fixtures	2,747.03	.00030	.00298
21	Underground Conduits	16.00	.....	.00002
22	Distribution System	22,908.89	.00253	.02482
23	Miscellaneous Electric Line Expense	177.21	.00002	.00019
24	Buildings and Structures	9,579.25	.00106	.01038
28	Transportation for Investment Credit	*1,632.50*	*.00018*	*.00177*
	Total Way and Structures	$183,515.51	.02030	.19882

II. EQUIPMENT

29	Superintendent of Equipment	$3,000.00	.00033	.00325
30	Passenger and Combination Cars	140,174.24	.01551	.15187
32	Service Equipment	37.60	.....	.00004
33	Electric Equipment of Cars	32,489.02	.00359	.03520
36	Shop Equipment, Machinery and Tools	321.40	.00004	.00035
37	Shop Expenses	4,913.83	.00054	.00532
38	Vehicles and Horses	1,715.37	.00019	.00186
	Total Equipment	$182,651.46	.02020	.19789

Italic figures denote loss and deficiency.

III. POWER

Acct. No.	Name	Amount	Per Car Mile	Per Car Hour
45	Superintendent of Power	$732.07	.00008	.00079
47	Power Plant Equipment	1.70	.....	.....
59	Power Purchased—Propulsion	553,817.52	.06126	.60002
59A	Power Purchased for Lighting Car Barns	4,206.61	.00046	.00456
59B	Power Purchased for Lighting Tunnels	1,675.44	.00019	.00182
	Total Power	$560,433.34	.06199	.60719

IV. CONDUCTING TRANSPORTATION

63	Superintendent of Transportation	$113,117.54	.01251	.12255
64	Conductors and Motormen	1,565,499.77	.17317	1.69610
66	Miscellaneous Car Service Employees	5,044.13	.00056	.00546
67	Miscellaneous Car Service Expense	11,118.34	.00123	.01205
68	Station Employees	11,736.77	.00130	.01272
69	Station Expense	1,257.48	.00014	.00136
70	Car House Employees	135,928.08	.01504	.14727
71	Car House Expense	4,389.77	.00049	.00475
72	Operation of Signal & Interlocking Appar.	4,299.47	.00047	.00466
73	Oper. of Telephone & Telegraph System	4,887.68	.00054	.00530
78	Miscellaneous Transportation Expense	629.67	.00007	.00068
	Total Conducting Transportation	$1,857,908.70	.20552	2.01290

VI. GENERAL AND MISCELLANEOUS

83	Salaries and Expense—General Office	$14,700.00	.00163	.01593
84	Salaries and Expense—Gen. Office Clerks	21,207.85	.00234	.02298
85	General Office Supplies and Expense	2,418.44	.00027	.00262
88	Pensions and Gratuities	157,817.33	.01746	.17098
89	Miscellaneous General Expense	17,240.02	.00191	.01868
92	Injuries and Damages—Employees	20,392.35	.00225	.02209
93	Insurance	776.64	.00008	.00084
94	Stationery and Printing	14,981.58	.00166	.01623
95	Store Expense	4,503.48	.00050	.00488
96	Garage and Stable Expenses	2,631.02	.00029	.00285
97	Rent of Tracks and Terminals	5,138.52	.00057	.00557
	Credit Charges to Bus Line Operation	*7,635.02*	*.00084*	*.00827*
	Total General and Miscellaneous	$254,172.21	.02812	.27538

Italic figures denote loss and deficiency.

RECAPITULATION

Acct. No.	Name	Amount	Per Car Mile	Per Car Hour
I.	Way and Structures	$183,515.51	.02030	.19882
II.	Equipment	182,651.46	.02020	.19789
III.	Power	560,433.34	.06199	.60719
IV.	Conducting Transportation	1,857,908.70	.20552	2.01290
VI.	General and Miscellaneous	254,172.21	.02812	.27538
	Total Recapitulation	$3,038,681.22	.33613	3.29218
	Depreciation Reserve $343,280.73			
	Less Applicable to Buses 18,305.65	$324,975.08	.03595	.35209
	*Accident Reserve $124,306.46			
	Less Applicable to Buses 15,398.42	108,908.04	.01205	.11799
	Bond Interest $72,083.33			
	Less Applicable to Buses 9,914.68	62,168.65	.00687	.06735
	Grand Total	$3,534,732.99	.39100	3.82962
	*Actual Payments and Accident Costs	$122,054.71		
	Less: Applicable to Buses	4,019.51		
		$118,035.20		
	Car Mileage 9,040,147			
	Car Hours 922,999			

Note: Bus Line Operation Not Included.

COST STATEMENT—ITEMIZED ACCOUNTS

Fiscal Year July 1, 1938 to June 30, 1939

BUS OPERATIONS ONLY

II. EQUIPMENT

Acct. No.	Name	Amount	Per Bus Mile	Per Bus Hour
39A	Bus Engines—Labor and Material	$8,963.38	.01164	.11187
39B	Painting Buses	304.30	.00040	.00380
39C	Chassis—Labor and Material—Buses	3,427.82	.00445	.04278
39D	Bus Tires, including Repairs	7,221.38	.00938	.09012
39E	Bus Body Repairs	2,141.18	.00278	.02672
39F	Repairs to Garage Equipment	45.02	.00006	.00056
39G	Transmission—Labor & Material—Buses	1,902.68	.00247	.02375
39H	Brake Work—Labor & Material—Buses	1,440.15	.00187	.01797
	Total Equipment	$25,445.91	.03305	.31757

MUNICIPAL RAILWAY OF SAN FRANCISCO
AVERAGE TRAVEL BY DAYS OF THE WEEK
FISCAL YEAR ENDING JUNE 30, 1939
PASSENGERS CARRIED
400000
300000
200000
100000
0
SUN.
MON.
TUES.
WED.
THUR.
FRI.
SAT.

IV. CONDUCTING TRANSPORTATION

Acct. No.	Name	Amount	Per Bus Mile	Per Bus Hour
78A	Gasoline—Buses	$32,651.82	.04241	.40750
78B	Oils, Lubricants—Buses	1,476.84	.00192	.01843
78C	Conductor-Chauffeurs—Buses	70,218.83	.09120	.87635
78D	Greasing and Servicing—Buses	12,913.39	.01677	.16116
78E	Cleaning and Washing Buses	4,206.67	.00547	.05250
	Total Conducting Transportation	$121,467.55	.15777	1.51594

VI. GENERAL AND MISCELLANEOUS

88A	Pension Costs—Buses	$6,258.88	.00813	.07811
88C	Sick Leave—Bus Employees	344.40	.00045	.00430
88D	Sick Leave—Medical Expenses	121.80	.00016	.00152
*89A	Administration—Buses	13,200.00	.01714	.16474
94	Stationery and Printing	780.00	.00101	.00973
95	Store Expenses	4,836.50	.00628	.06036
98	Rent of Equipment	1,314.00	.00171	.01640
98A	Garage, Shop, Office and Equip. Rental	3,432.72	.00446	.04284
	Total General and Miscellaneous	$30,288.30	.03934	.37800

*Allocation:

Superintendence—Plant and Equipm't	$4,012.80
Superintendence—Operation of Buses	4,012.80
Administration—General	5,174.40
	$13,200.00

RECAPITULATION

II	Equipment	$25,445.91	.03305	.31757
IV	Conducting Transportation	121,467.55	.15777	1.51594
VI	General and Miscellaneous	30,288.30	.03934	.37800
	Total Recapitulation	$177,201.76	.23016	2.21151
	Depreciation Reserve	$18,305.65	.02377	.22846
	†Injuries and Damages (Reserve)	15,398.42	.02000	.19218
	Total Reserves	$33,704.07	.04377	.42064
	Interest on Investment	$9,914.68	.01288	.12373
	Total Bus Costs	$220,820.51	.28681	2.75588
	†Actual Payments and Accident Costs	$4,019.51		
	Bus Mileage	769,921		
	Bus Hours	80,127		

ANNUAL REPORT OF CLAIM DEPARTMENT

Fiscal Year Ended June 30, 1939

1.	Total passengers carried during year		107,739,849
2.	Car miles operated:		
	Cars	9,040,147	
	Buses	769,921	9,810,068
3.	Number of passengers to mile		10.98
4.	Number of accident reports filed		5,093
5.	Number of accidents fatal		6
6.	Number of fatal accidents to passengers		0
7.	Number of accidents—personal injuries—passengers		1,531
8.	Number of claims presented		1,133
9.	Number of claims adjusted		686
10.	Number of suits instituted		115
11.	Number of suits pending		116
12.	Number of passengers carried per accident report		21,154
13.	Number of passengers carried per personal injury report		67,676
14.	Number of passengers carried per fatal accident to passengers		(No fatal accidents to passengers)

Classification

1.	Car collisions	60	.0118
2.	Auto and wagon collisions	2,304	.4524
3.	Boarding moving car	511	.1003
4.	Leaving moving car	198	.0389
5.	Miscellaneous	2,020	.3966
		5,093	1.0000
1.	Percentage of accidents to passengers carried		.00005
2.	Total revenue		$4,143,548.62
*3.	Total amount paid for accident claims, office and miscellaneous expense		$122,054.71
4.	Ratio to operating revenue		.0295

Recapitulation

Amounts Paid

1.	Personal injuries	$72,268.70
2.	Property damage	7,221.09
*3.	Salaries and wages	25,920.28
4.	Miscellaneous and hospital	16,644.64
	Total	$122,054.71

Note:

1. Item No. 4 of the above "Number of accident reports filed" also includes any and all reports of accidents happening near the cars in which this railway was not involved.
2. Salaries and wages account includes expense of City Attorney's office which amounts to $10,000 yearly.

COMPARATIVE STATEMENT OF COMPLAINTS AND COMMENDATIONS

Fiscal Years Ended June 30, 1939, and June 30, 1938

	GEARY STREET DIVISION		17th STREET DIVISION	
	Fiscal Year Ended June, 1939	Fiscal Year Ended June, 1938	Fiscal Year Ended June, 1939	Fiscal Year Ended June, 1938
Discourtesy	81	54	69	50
Improper handling of transfers	33	25	20	18
Not allowing passengers sufficient time to board or alight from cars	63	39	64	46
Failure to stop for intending passengers	38	30	33	38
Carrying passengers beyond destination	20	17	27	24
Careless operation of car	59	28	38	29
Miscellaneous	77	79	61	77
Total no. of complaints received	371	272	312	282
Commendations received	27	26	29	16

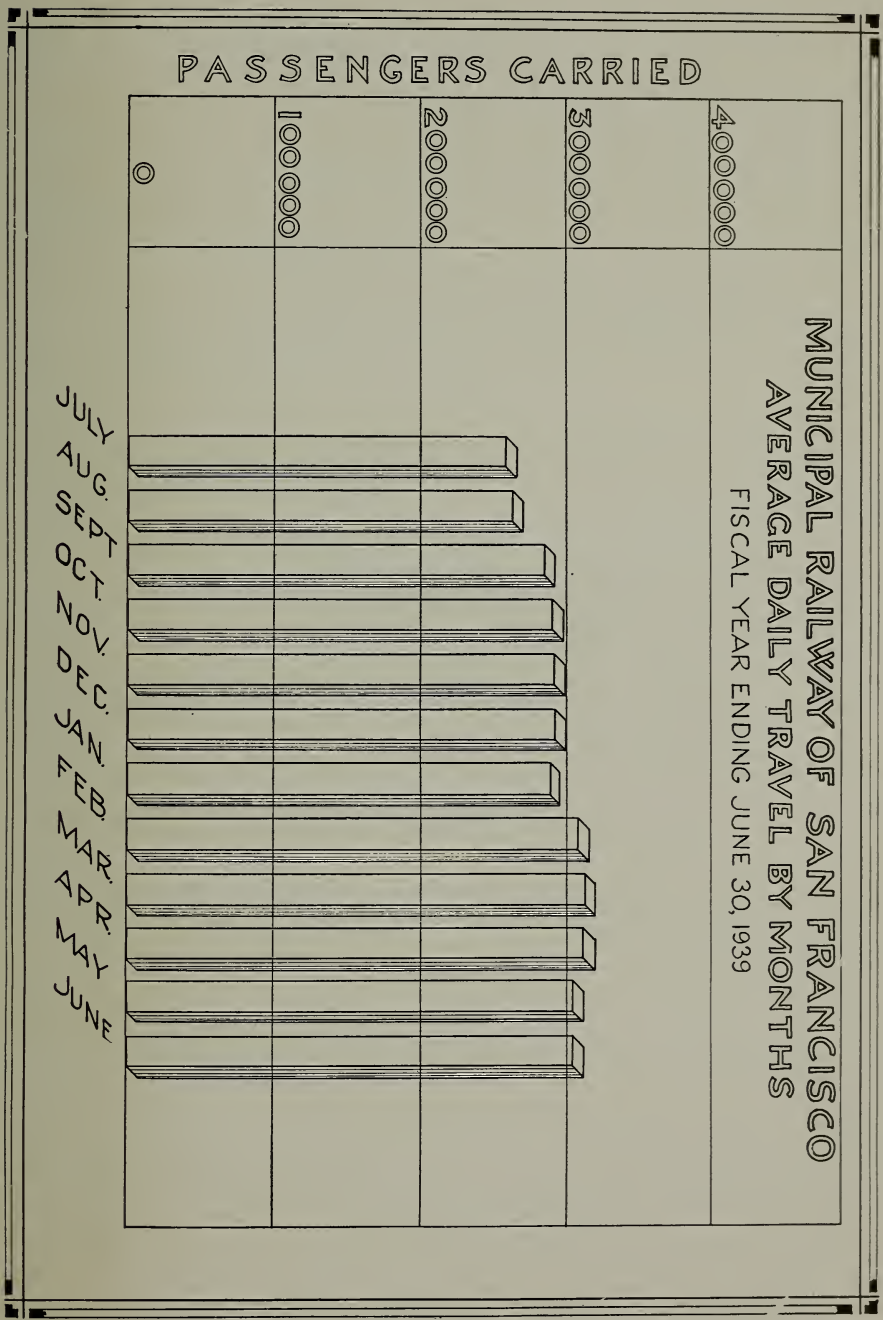
COMPARATIVE STATEMENT OF BAD ORDER CARS TURNED IN

Fiscal Year Ended June 30, 1939

	Geary Street Car Barn	17th Street Car Barn	Total	System Average
Number of cars	345	423	768	
Mileage	3,765,083	5,275,064	9,040,147	
Mileage per Turn-in	10,913	12,475		11,771
Accidents not included in above	212	237	449	

Fiscal Year Ended June 30, 1938

Number of cars	274	364	638	
Mileage	3,232,907	5,201,823	8,434,730	
Mileage per Turn-in	11,799	14,291		13,221
Accidents not included in above	154	211	365	
Decreased mileage per turn-in Fiscal Year Ended June 30, 1939, under Fiscal Year Ended June 30, 1938				1,450


MUNICIPAL RAILWAY OF SAN FRANCISCO
AVERAGE DAILY TRAVEL BY MONTHS
FISCAL YEAR ENDING JUNE 30, 1939
PASSENGERS CARRIED
400000
300000
200000
100000
0
JULY
AUG.
SEPT.
OCT.
NOV.
DEC.
JAN.
FEB.
MAR.
APR.
MAY
JUNE

BUS ROUTES IN OPERATION—JUNE 30, 1939

	Miles		Miles
ROUTE No. 1: From Tenth Avenue and California Street via Tenth Avenue, Golden Gate Park, Ninth Avenue, Judah Street, Seventh Avenue, Laguna Honda Boulevard, Portola Drive, Miraloma Drive, Yerba Buena Drive, Plymouth Avenue, Monterey Boulevard, Ridgewood Avenue, Hearst Avenue to Edna Street and Monterey Boulevard. Connects with Lines "B," "C," "K," "L," and "N." Mileage one way	5.15	Round Trip	10.30
ROUTE No. 4: From Aquatic Park at Hyde and Jefferson Streets via Jefferson Street, The Embarcadero, Berry Street and Third Street to Southern Pacific Depot. Mileage one way	3.40	Round Trip	6.80
ROUTE No. 5: From terminus of Line "F" at Scott and Chestnut Streets via Chestnut Street and Broderick Street, to Marina Boulevard. Mileage one way	.56	Round Trip	1.12
ROUTE No. 6: From Market and Castro Streets bus makes a continuous trip via Castro Street, Nineteenth Street, Eureka Street, Twenty-third Street and Diamond Street to Duncan Street, making a U-turn, thence via Diamond Street, Clipper Street, Church Street, Twenty-fifth Street, Diamond Street, Twenty-third Street, Eureka Street, Nineteenth Street, Collingwood Street and Market Street to Castro Street. Mileage one way	1.90	Round Trip	3.80
Total Bus Mileage One Way	11.01	Round Trip	22.02

MILEAGE—SINGLE TRACK—JUNE 30, 1939

Operated Track:		
Track Wholly Owned and Operated (exclusive of Bridge Loop)	74.52	
Track Wholly Owned and Operated Bridge Loop	.26	74.78
Track Jointly Owned and Jointly Operated	1.33	
Track Not Owned but Jointly Operated	2.97	
Track Wholly Owned and Jointly Operated (Bridge Loop)	.21	4.51
Total Operated Track		79.29
Track Owned by Municipal Railway, Operated Exclusively by Market Street Railway (Bridge Loop)		.46
Non-Operated Track, Sidings, Turnouts, etc.:		
Taraval Street between Forty-sixth and Forty-eighth Avenues	.25	
Masonic Avenue Spur	.02	
Polk and Geary Streets Spur	.05	
Columbus Avenue, between Washington and Jackson Streets	.08	
Geary Street Carhouse, Sidings and Turn-outs	2.18	
Seventeenth Street Carhouse, Sidings and Turn-outs	1.65	
Total		4.23
Total Single Track Mileage, June 30, 1939		83.98

MILES, ROUTES AND ROUTE MILEAGE—JUNE 30, 1939

Line "B"	14.12	Ocean to Ferries via Geary Street.
Line "C"	11.82	Thirty-third Avenue and California Street to Ferries via California and Geary Streets.
Line "D"	8.48	Presidio to Ferries via Van Ness Avenue and Geary Street.
Line "E"	7.54	Presidio to Ferries via Union Street and Columbus Avenue.
Line "F"	6.16	Scott and Chestnut Streets to Market, Fourth and Ellis Streets via Chestnut and Stockton Streets.
Line "H"	9.32	Army Street and Potrero Avenue to Fort Mason Transport Docks via Potrero and Van Ness Avenues.
Line "J"	9.12	Thirtieth and Church Streets to Ferries via Church and Market Streets.
Line "K"	15.34	Grafton and Brighton Avenues to Ferries via Ocean Avenue, Twin Peaks Tunnel and Market Street.
Line "L"	16.32	Beach to Ferries via Taraval Street, Twin Peaks Tunnel and Market Street.
Line "M"	4.84	Plymouth Avenue and Broad Street to St. Francis Circle via Broad Street and Nineteenth Avenue.
Line "N"	14.56	Ocean Beach to Ferries via Judah Street, Sunset Tunnel and Market Street.
	117.62	Total Route Mileage (Ferry).
	.47	Municipal Railway Operated Mileage (Bridge Loop).
	118.09	Total Route Mileage.
	79.29	Total Track Mileage Operated.
	38.80	Duplicate Routes.

Note: Lines B, C, D, J, K, L and N mentioned above, when operating to the Bay Bridge Terminal operate thirty-three hundredths of a mile less than the route mileage shown.

CHRONOLOGY

December 2, 1902. Election. Proposition authorizing $700,000.00 bonds defeated.

October 8, 1903. Election. Proposition authorizing $710,000.00 bonds defeated.

November 6, 1903. Franchise of Geary Street, Park and Ocean Railroad Company expired.

June, 1906. Budget appropriation $325,000.00 for Geary Street Railroad. Used for reconstruction and rehabilitation of streets and buildings destroyed in disaster of April 18-22, 1906.

June, 1907. Budget appropriation $720,000.00 for Geary Street Railroad. Subsequently declared invalid by court.

June 24, 1909. Election. Proposition authorizing $1,950,000.00 bonds defeated, lacking 203 votes.

December 30, 1909. Election. Proposition authorizing $2,020,000.00 bonds carried by 20,000 majority.

April 16, 1910. Superior Court declares bond issue valid in every respect. Decision affirmed by Supreme Court in July, 1910.

July 18, 1910. First lot of bonds, $121,000.00, sold.

Summer, 1911. Construction of Geary Street Railroad commenced.

May 5, 1912. The Geary Street, Park and Ocean Railroad (cable system) ceased operations.

December 28, 1912. The Municipal Railway (overhead trolley system) commenced operation on Geary Street from Kearny Street to Thirty-third Avenue and Park, with ten (10) cars, under direction of Thomas A. Cashin, Superintendent, Mayor James Rolph, Jr., acting as motorman on first car.

April 22, 1913. Referendum election. Agreement with Sutter Street Railroad Company respecting use of tracks on lower Market Street ratified.

June 25, 1913. Municipal Railway in full operation from Ferries to Beach and Park. Forty-three cars owned.

August 26, 1913. Election. Proposition authorizing $3,500,000.00 bonds for extensions of Municipal Railway carried by 37,670 majority.

December 11, 1913. Presidio & Ferries R. R. Company (Union Street Division) taken over by Municipal Railway.

May 16, 1914. Masonic Avenue branch completed.

August 15, 1914. Van Ness Avenue line from Market Street in operation to Exposition grounds.

September 7, 1914. Potrero Avenue line in operation, Eleventh and Market Streets to Twenty-fifth Street and Potrero Avenue.

December 29, 1914. Stockton Street, Columbus Avenue and North Point line in operation through tunnel.

December 29, 1914. Fort Mason Loop commenced operation.

February 10, 1915. Columbus Avenue line in operation from Ferries to Exposition grounds.

February 19, 1915. California Street line in operation to Thirteenth Avenue.

March 28, 1915. California Street line in operation to Thirty-third Avenue.

April 25, 1915. Beach Loop, Geary Street line, commenced operation.

January 24, 1916. Stockton Street branch ("E") in operation from Presidio to Market, Fourth and Ellis Streets.

April 29, 1916. Church Street line (Sect. "C"), Sixteenth to Eighteenth and Twenty-second to Thirtieth Streets, ready for operation.

June 1, 1916. Columbus Avenue ("J" line), Ferries to Exposition grounds, discontinued.

June 12, 1916. Church Street line (Sect. "A"), Van Ness Avenue and Market Street to Sixteenth and Church Streets, started by day labor. Held up by United Railroads injunction.

June 28, 1916. Church Street line (Sect. "B"), Eighteenth to Twenty-second Streets, ready for operation.

December 21, 1916. Potrero Avenue line ("H") extended from Twenty-fifth Street to Army Street. Twenty-two hundredths mile added. Placed in operation January 19, 1917.

August 11, 1917. Church Street line ("J"), Van Ness Avenue and Market Street to Church and Thirtieth Streets, commenced operation.

February 3, 1918. Twin Peaks tunnel line ("K") to Van Ness Avenue and Bush Street commenced operation. (Length of tunnel 11,920 feet.)

May 4, 1918. Greenwich Street extension (Van Ness Avenue line), Scott to Baker Street, commenced operation.

June 1, 1918. Market Street lines ("J" and "K"), Van Ness Avenue to Geary Street, commenced operation, establishing through service, Ferries to Sloat Boulevard.

October 30, 1918. Third loop opened at Ferry terminus.

February 21, 1919. Market Street line ("K") commenced operation over United Railroads' tracks on Ocean Avenue to Miramar Avenue.

April 12, 1919. Taraval Street line ("L") commenced operation from West Portal of Twin Peaks tunnel to Thirty-third Avenue, operating jointly with the United Railroads on Taraval Street between Twentieth Avenue and Thirty-third Avenue.

May 18, 1919. Market Street line ("K") commenced operation over extension along Ocean and Brighton Avenues to Grafton Avenue.

July 22, 1919. Changed and shortened route of Van Ness Avenue line ("D") and Union Street line ("E") by track connection on Union Street between Franklin Street and Van Ness Avenue.

August 7, 1919. One elevator placed in operation at Forest Hill station of Twin Peaks tunnel.

December 8, 1919. Presidio loop, Van Ness Avenue and Union Street lines, commenced operation.

January 14, 1923. Taraval Street line ("L") commenced operation over extension on Taraval Street, between Thirty-third Avenue and Ocean Beach.

October 15, 1923. Taraval Street line ("L") operated as a through line from Beach to Ferries via Twin Peaks tunnel and Market Street.

October 6, 1925. Line "M" commenced operation between Plymouth Avenue and Broad Street to St. Francis Circle.

February 1, 1928. Second elevator (the largest on the Pacific Coast) installed at Forest Hill station of Twin Peaks tunnel.

October 21, 1928. Line "N" commenced operation between Forty-eighth Avenue and Judah Street and the Ferries.

January 8, 1932. Jurisdiction over the San Francisco Municipal Railway was transferred from the Board of Public Works to the San Francisco Public Utilities Commission under provisions of the new charter.

June 1, 1932. Line "O" commenced operation between Van Ness Avenue and Market Street and the Presidio (a rearrangement of lines "D," "E," and "H").

July 15, 1932. Line "O" abandoned and lines "D," "E" and "H" placed on their original routing.

December 5, 1932. Line "A" discontinued.

December 5, 1932. Bus Route No. 1 extended to Tenth Avenue and Lake Street.

January 3, 1933. Bus Route No. 2 discontinued.

January 30, 1933. Bus Route No. 1 North Terminal changed to Tenth Avenue and California Street.

December 5, 1933. Bus Route No. 1 South Terminal changed to Edna Street and Monterey Boulevard.

July 28, 1935. Bus Route No. 6 commenced operation. Eureka Valley Station to Diamond and Clipper Streets.

September 15, 1937. Line "L" extension to Fleishhacker Pool commenced operation.

January 1, 1938. Bus Route No. 5 Marina Route routed over Broderick Street instead of Divisadero Street.

May 8, 1938. Bus Route No. 6 South Terminal changed to Diamond and Duncan Street.

January 15, 1939. Bay Bridge trains started operation to Bridge Terminal. Alternate Municipal Railway cars operated over Bay Bridge Loop.

June 25, 1939. Bus Route No. 6 rerouted over Castro, Nineteenth, Eureka, Twenty-third, Diamond, Clipper, Church, Twenty-fifth, Collingwood, and Market Streets.

June 30, 1939. Total single track mileage, 83.98 (see mileage statement).

June 30, 1939. Total one-way bus mileage 11.01 (see mileage statement).

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by
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